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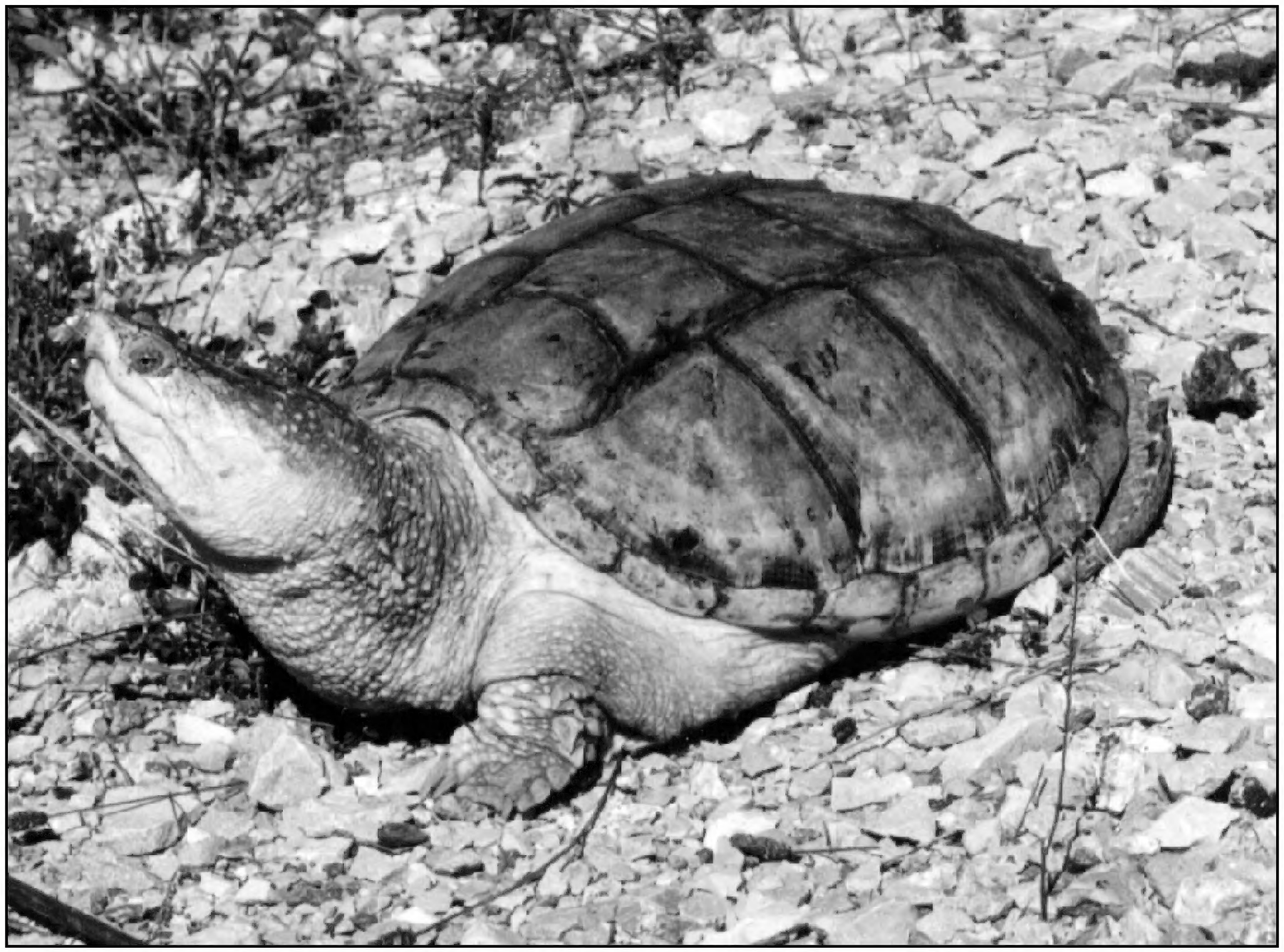

BULLETIN OF THE CHICAGO HERPETOLOGICAL SOCIETY
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Observations on Courtship Behavior in *Ungaliophis* Mueller

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Reproductive data are available for a number of snakes of the family Tropidophiidae, including *Exiliboa* (Campbell and Camarillo, 1992), *Trachyboa* (Arnett et al., 1992; Barbour, 1937; Lehmann, 1970), *Tropidophis* (Bailey, 1937; Bartlett, 1990; Funk, 1978, Grant, 1957; Hedges, 1992; Iverson, 1986; Petzold, 1969; Powell et al., 1992; Ross and Marzec, 1990; Schwartz and Henderson, 1991; Stull, 1928; Tolson, 1980), and *Ungaliophis* (Blody, 1989; Burger, 1995). Additional data are available in Slavens (1988, 1989, 1990, 1991, 1992). Most of the information in these references is restricted to parturition dates, young born, or the number of follicles or embryos present. Few observations have been made or published concerning the courtship behavior of the tropidophids. The following observations and accompanying photographs attempt to describe a unique courtship behavior in an arboreal member of the family, *Ungaliophis*[1].

A group of *Ungaliophis continentalis* has been maintained by the author for several years. Sexes are generally kept separate for nine months of the year, with introductions coinciding with a three-month cool period. Temperatures at this time fluctuate widely. Nighttime lows approach 14–15°C; daytime temperatures are kept at 26–28°C. Humidity levels are below 40% during this cool period.

Introductions are made in the early evening, usually at the beginning of nocturnal activity in *Ungaliophis*. Initial contact behavior varies with each encounter. Males appear to use a combination of visual, tactile (contact of the male's head and body against the female's body), and olfactory (tongue flicking) cues in an investigatory manner usually culminating at the female's tail region. Females appear to be unwilling participants in most encounters and will usually try to flee a male's attempts. The dorsal advance as described by Gillingham (1987) has not been observed.

Numerous unsuccessful attempts to bite the female dorsally at her midsection have been observed in many reproductive encounters (Figure 1). A succession of biting attempts eventually results in one successful bite or grasp by the male on the female's tail section (Figure 2). Tail in mouth, the male will arch his neck and upper body as if "pulling" on the female to gain leverage (Figure 3). The male eventually assumes several coils around the female's lower body where coital alignment takes place (Figure 4).

Some reproductive attempts are characterized by the male positioning his head perpendicular to the female's lateral surface; as the female begins to crawl away, the male will open his mouth and wait until the female's tail section passes by. The male then bites the female on the tail (at which time the act progresses to the male arching his upper body as previously described).

At other times, while attempted unsuccessful biting may be observed, the copulatory act fails to involve an actual tail bite. Instead, the male will position his body on that of the female while exhibiting dorsal body looping (Gillingham, 1987) (Figure 5). At this time the male's pelvic spurs, which are approximately 1–2 mm in size, are vigorously used in a raking or scratching motion[2]. The male will then begin to wrap his lower body around that of the female (Figure 6). While actual intromission has occasionally been observed, cloacal gaping by the female has not. The entire copulatory act usually lasts for under one hour.

Gillingham (1987) stated that biting by the courting male occurs in two separate forms and is limited to the Colubridae. The courtship bite, occurring in the tactile-chase phase (Gillingham et al., 1977) of courtship, is an attempt by the male snake to change the females body position. The coital neck bite occurs in the tactile-alignment phase (Gillingham et al., 1977) of courtship but has a yet to be determined function. The coital tail bite, maintained throughout much of the copulatory act, appears to be an attempt to restrain the female's escape while the male positions himself for copulation. The tail bite has not been reported for any other taxon and may be unique to *Ungaliophis*; mating behavior in other tropidophids (Iverson, 1986; pers. obs.) generally follows a pattern similar to that of other snakes.

While introductions usually coincide with seasonal temperature manipulations, occasionally males will be placed with females at other times of the year. Males will attempt to copulate at many of these introductions, although females appear to produce palpable ovarian follicles or ova only during a cooling period.

I have observed some unusual behavior (other than the tail bite) in young male *Ungaliophis*. In what appears to have started as a reproductive encounter, a sixteen-month-old male began to swallow an adult female's tail. This bizarre incident was interrupted after approximately 2 cm of the female's tail had disappeared. Another unusual occurrence involved a young male that attempted to copulate with a sibling male. This incident occurred after a cage change; the snakes had otherwise been kept singly. This unusual attempt included a tail bite.

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1. Additionally, three members of the genus *Tropidophis* are at least partially arboreal (*T. feicki*, *T. semicinctus* and *T. wrighti*).
2. When being kept on a paper substrate, spur activity can sometimes be heard from more than a meter away.

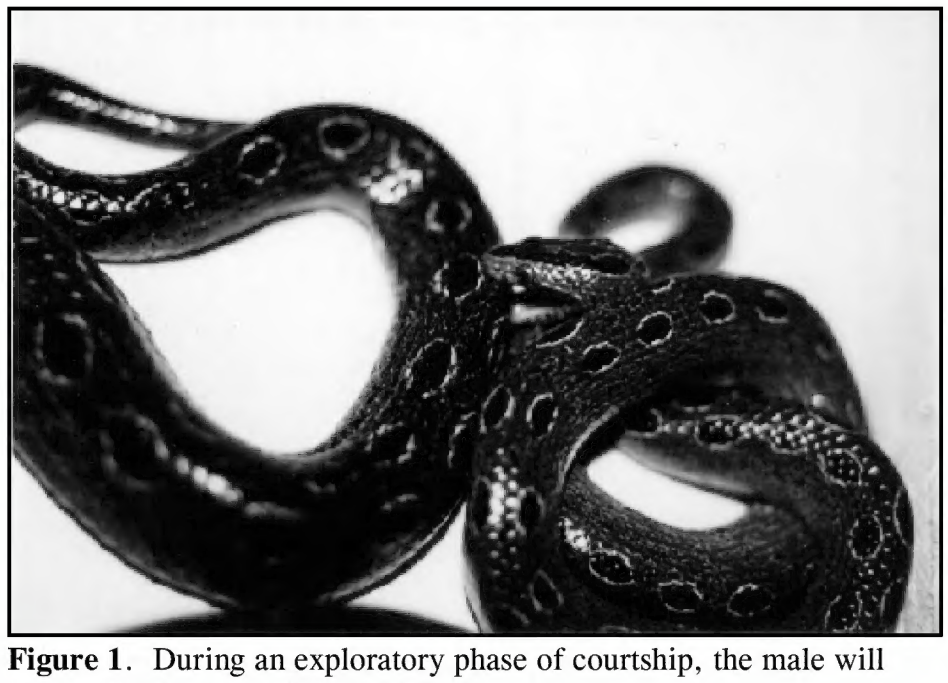

Figure 1. During an exploratory phase of courtship, the male will frequently attempt to bite the female.

Figure 2. Observed in most copulatory attempts, the tail bite has not been noted in other tropidophids.

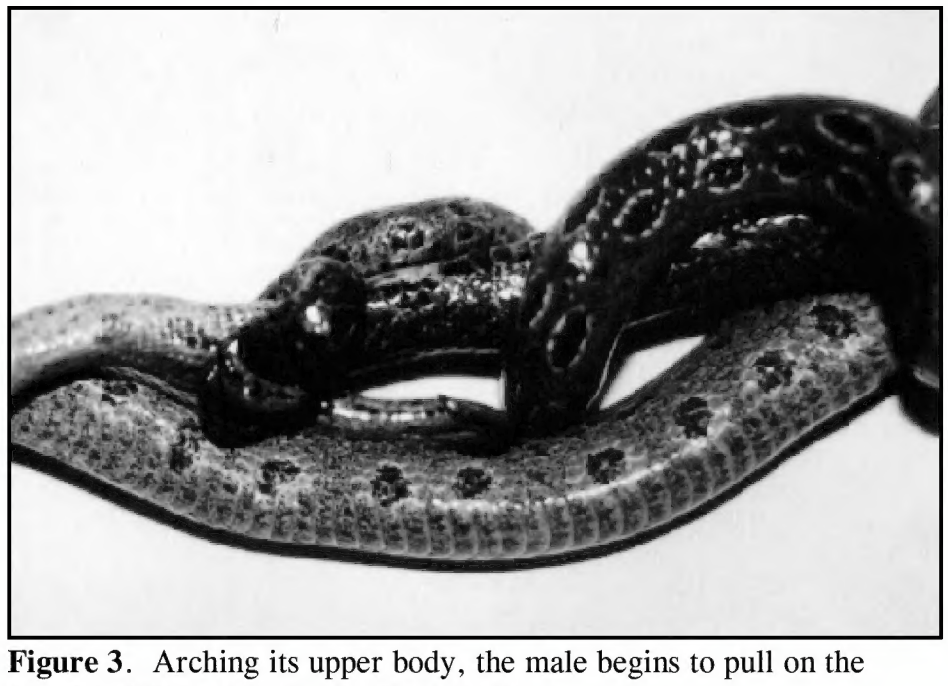

Figure 3. Arching its upper body, the male begins to pull on the female while positioning its lower body.

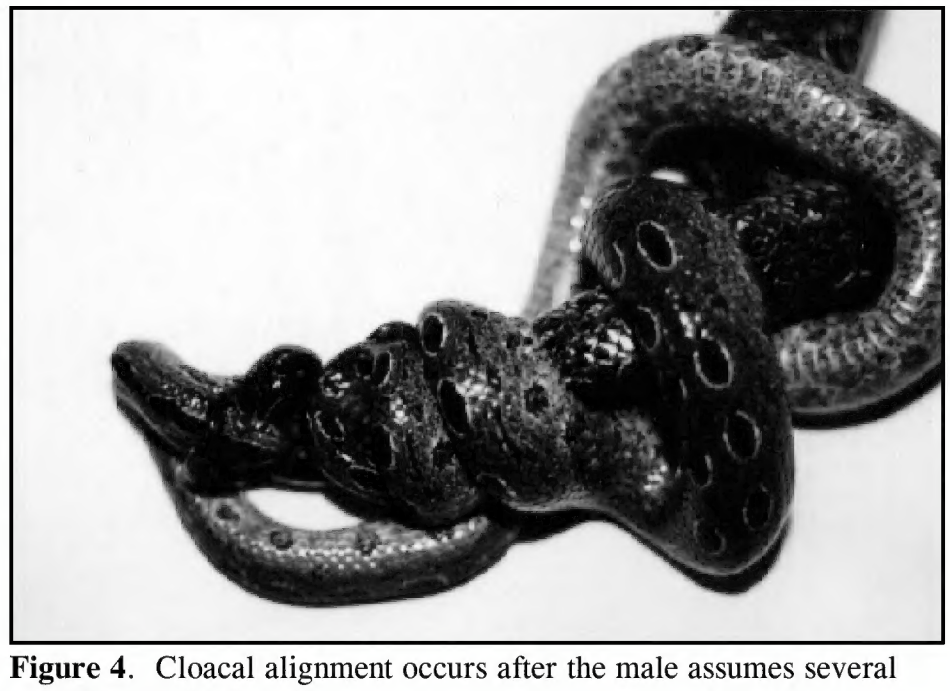

Figure 4. Cloacal alignment occurs after the male assumes several coils around the female.

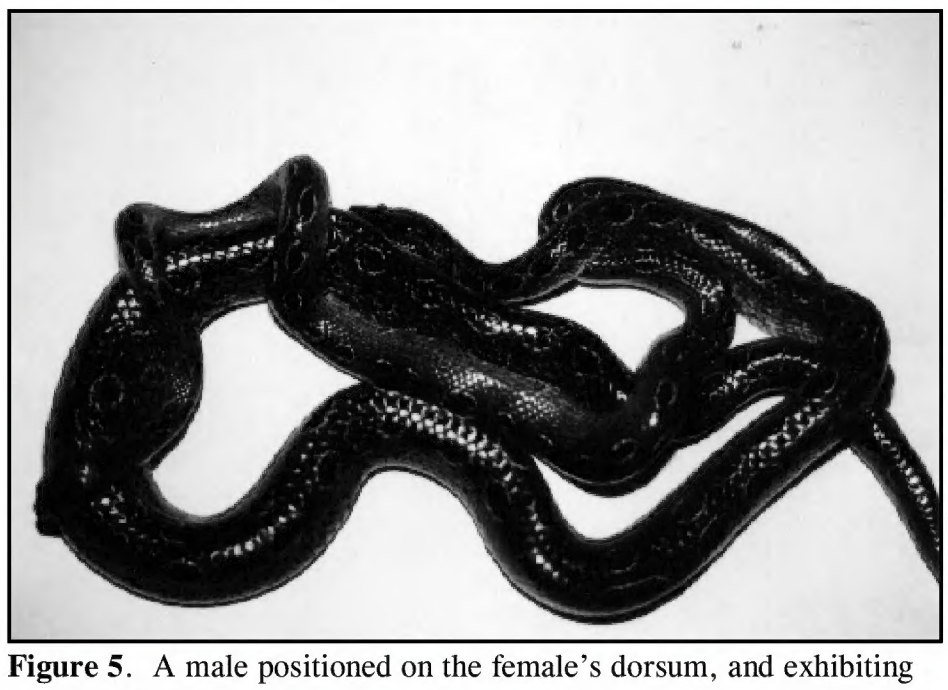

Figure 5. A male positioned on the female's dorsum, and exhibiting dorsal body looping.

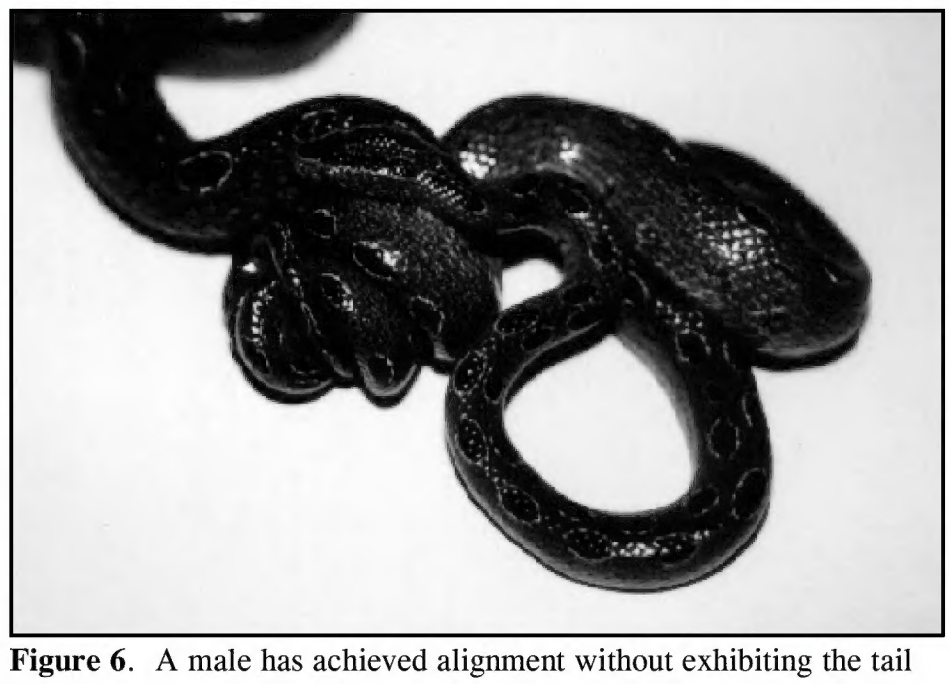

Figure 6. A male has achieved alignment without exhibiting the tail bite.

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Additional Records of Kyphosis in Freshwater Turtles

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Kyphotic (humpbacked) individuals of a number of freshwater turtle species have been known to science for many years. Based on the available literature, kyphosis appears to be most common in the Trionychidae (Cahn, 1937; Gressitt, 1937; Smith, 1947; Nixon and Smith, 1949; Duda and Gupta, 1977; Burke, 1994). The condition also has been documented in the Emydidae, particularly in *Chrysemys picta* (Necker, 1940; Werner, 1959; Ernst, 1971; MacCulloch, 1981), and at least three other chelonian families (Nixon and Smith, 1949, and refs. therein).

The cause of kyphosis in turtles is unclear. Smith (1947) suggested that differential growth rates of the skeletal components of the carapace, combined with a premature fusion of the vertebral column with the carapacial plates at around the time of hatching, could cause kyphosis. Cagle (1950) observed in hatchling *Trachemys scripta troostii* that the retraction of an abnormally large yolk mass can cause distension of the still-pliable carapace. Williams (1957) hypothesized that it is this abnormal yolk retraction, which may or may not contribute to the early skeletal fusion proposed by Smith (1947), that results in kyphotic deformities.

During 1994, I collected two kyphotic turtles on Bosque del Apache National Wildlife Refuge, Socorro County, New Mexico. Both were captured in baited hoop traps placed in shallow (0.5–1.0 m deep), lentic waters within the flood plain of the Rio Grande. The first specimen, a male *Chrysemys picta bellii* (Figure 1) was trapped on 5 May. Straight-line carapace and plastron lengths were 154 mm and 141 mm, respectively, and the specimen had a mass of 413 g. No measurements of the deformity were made. The hump was centered on the midline of the carapace near the anterior end of the third vertebral scute. The deformity in this individual was less pronounced than in the extremely kyphotic *C. picta* illustrated by Necker (1940), but was comparable to the two examples shown in Ernst (1971). The turtle, which appeared to be in good health, was photographed, marked, and released at the capture site.

The second kyphotic specimen, a female *Trionyx spiniferus emoryi* (= *Apalone spinifera emoryi*) (Figure 2), was trapped on 1 September. The turtle had the following straight-line measurements: carapace disc length = 185 mm; maximum carapace disc width = 149 mm; body depth at midpoint of hump = 72 mm; body depth immediately anterior to hump = 32 mm; distance from anterior edge of carapace to midpoint of hump = 68 mm. Mass was 570 g. Kyphosis in this softshell was less pronounced than in the affected individuals of *Trionyx* spp. illustrated by Cahn (1937), Smith (1947), and Burke (1994). The specimen was deposited in the University of New Mexico Museum of Southwestern Biology (MSB 57831).

These two specimens were the only kyphotic turtles collected during a total of 5754 hours of trapping effort at Bosque del Apache in 1994. *Chrysemys picta bellii* was the most common turtle trapped in ponds and marshes on the refuge during this period (429 total captures, including an unknown number of unmarked recaptures), followed by *Trachemys gaigeae* (59 total captures, including 14 marked recaptures). *Trionyx spiniferus emoryi* was infrequently captured (< 20 total captures), but was commonly observed in nearby fast-flowing canals which were not trapped. Kyphotic turtles appear to be uncommon in New Mexico, as they are elsewhere. My inquiries to other biologists involved in aquatic turtle surveys in New Mexico and examination of hundreds of specimens preserved in the Museum of Southwestern Biology yielded no additional examples of this condition.

Acknowledgements

I thank H. M. Smith and W. G. Degenhardt for providing references, and P. Norton and J. P. Taylor for facilitating studies on Bosque del Apache National Wildlife Refuge. Field work on the refuge was partially supported by the U.S. Fish and Wildlife Service (FWS) and National Biological Service and was conducted under a FWS special use permit.

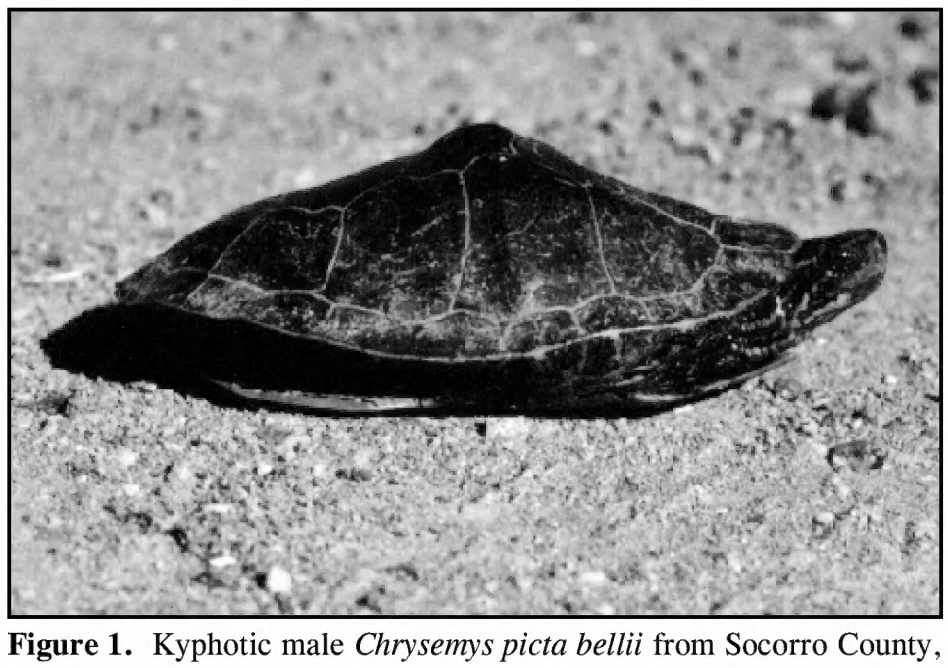

Figure 1. Kyphotic male *Chrysemys picta bellii* from Socorro County, New Mexico.

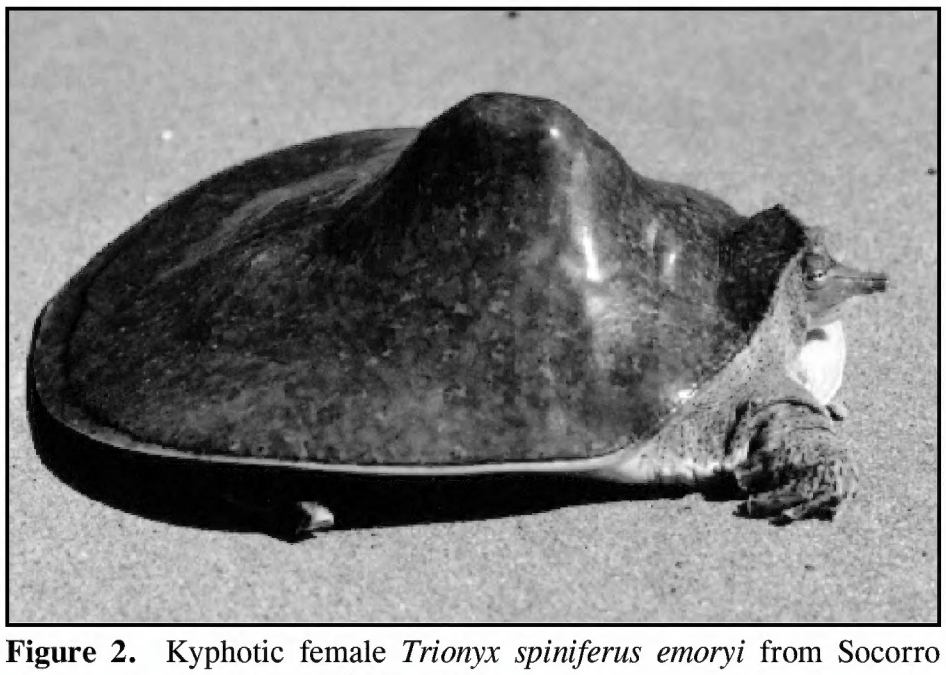

Figure 2. Kyphotic female *Trionyx spiniferus emoryi* from Socorro County, New Mexico (MSB 57831).

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Book Review: *Citations for the Original Descriptions of North American Amphibians and Reptiles* by Ellin Beltz. 1995. Society for the Study of Amphibians and Reptiles Circular No. 24

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This booklet contains the original literature citations for all genera, species and subspecies listed in the third edition of *Standard Common and Current Scientific Names for North American Amphibians and Reptiles* (SSAR Herpetological Circular No. 19, Collins 1990).

A short introductory section states that the author checked each citation either in the original publication or in some duplicated format when the original source was not available. This section ends with a long list of contributors and a special acknowledgment.

The body of the booklet comprises an alphabetical listing by genus, species, and subspecies of the describer's name, date of description, abbreviated publication name, volume, issue, page number of description, and plates or figures in which the taxon is illustrated. If the taxon was originally described in a different genus, the describer's name and date of description appear in parentheses.

Initially, I was disappointed that full citations, including title and page numbers, were not given but I quickly realized that these extras would have doubled the size of the publication and rendered it too bulky for the booklet format. In addition, if the goal is to track down original citations in a library, short citations are sufficient. The reference value could have been improved slightly by including the genus of original description when it differs from present usage but this does not detract from the overall usefulness of the booklet.

This booklet is a worthy addition to even the most complete herpetological library because it provides a single, affordable source for original descriptions of North American amphibians and reptiles.

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Notes on a Xanthic Specimen of the Common Snapping Turtle, *Chelydra serpentina*

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Introduction

Several abnormalities have been reported for the common snapping turtle, *Chelydra serpentina* including twins (e.g., Yntema, 1970; 1971), duplications (e.g., Feldman, 1983), and albinistic specimens (e.g., Hensley, 1959; Williams and Norden, 1992). However, no example of xanthism (incidence and occurrence among turtles reviewed by Marion and Cox, 1984) in this species has been reported. We report an adult xanthic specimen collected from a strip mine lake in central Illinois.

Description

The turtle (Figures 1–3) is an adult female with a straight-line carapace length of 267 mm and wet mass of 4.9 kg. The eyes of the specimen are yellow-tan except for a few scattered darker markings on the iris and the dark colored pupil. The skin on the legs, neck, tail, and axillary regions is white. Larger scutes of the same regions are distinctly light yellow. The scutes of the face and head are also yellow to light orange. The carapace is yellow except for the margins of the scutes which are darker brown with slight brown streaking near the margin (Figure 2). The plastron and belly skin is white with a slight yellowish cast particularly on the plastron. Ron Brown of the Jake Wolf Hatchery, Topeka, Illinois, caught the turtle on 1 September 1994 while fishing in the lake left by the Sunspot Coal Mine, Vermont, Fulton County, Illinois.

Discussion

This specimen is unusual because it managed to survive to adulthood despite the lack of the normal cryptic coloration of the species. However, when found, the turtle's carapace was covered with dark green and brown algae of undetermined species, which camouflaged the yellow carapace (Figure 3). Not only did this turtle survive the absence of cryptic coloration as a hatchling, but it has apparently thrived. The turtle has large deposits of fat palpable in the axillae of both hind legs.

This turtle has been deposited in the collections of the St. Louis Zoological Society where it is being maintained alive and exhibited for public view.

Acknowledgements

We thank Ron Brown for donation of the specimen and Joel Horwedel, Illinois Department of Conservation, Jake Wolf Hatchery, Topeka, Illinois, for maintaining the specimen until it could be picked up. James B. Camerer helped scrub the algae from the carapace and photograph the turtle. This research was partially supported by the Illinois Natural History Survey and the Upper Mississippi River System Long Term Resource Monitoring Program.

Figure 2. Close-up of costal scutes 1–3 showing the yellow coloration and brown markings along the margin of each costal.

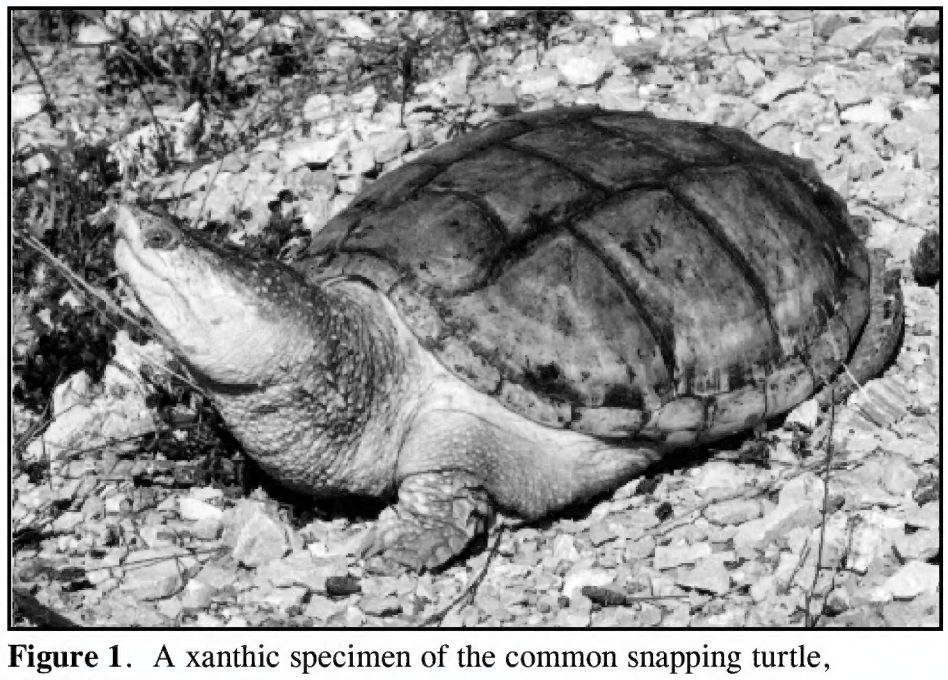

Figure 1. A xanthic specimen of the common snapping turtle, *Chelydra serpentina*.

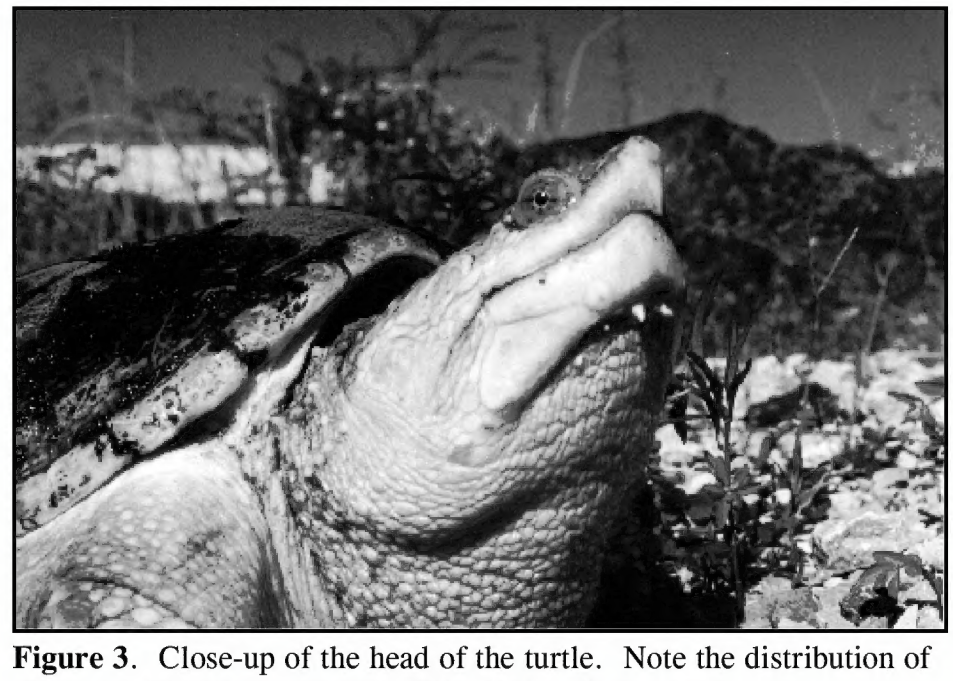

Figure 3. Close-up of the head of the turtle. Note the distribution of algae on the anterior portion of the shell before cleaning.

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Bull. Chicago Herp. Soc. 31(4):63-65, 1996

HerPET-POURRI

by Ellin Beltz

War on the newts

CHS member David Blatchford reports "At the moment, the [British] Government is enthusiastically constructing a major new road through a nature reserve in Berkshire" where the crested newts live. "This will destroy at least two sites of special scientific interest. [The government is] anxious to chop down as many trees as possible before the bird nesting season starts as then the Ministry of Roads will be [not be] liable for criminal proceedings for . . . killing nesting birds." Probably the Queen is more interested in the end of the Di/Chuck breeding season than that of the crested newts, but you could write His Royal Highness Prince Philip at Buckingham Palace, London, England, U.K. The Prince is a world-renowned nature lover and was the Royal Sponsor of the First World Congress of Herpetology in Canterbury in 1989.

Reptile investigation on four continents

February 1, 1996, CITES press release:

> Suspected smugglers of various reptiles were served search warrants by special agents of the U.S. Fish and Wildlife Service (FWS). The warrants were issued as part of an international investigation involving reptiles illegally imported from Indonesia, Australia, the Netherlands, and other countries. The investigation into reptile smuggling in the United States was initiated by a request for assistance from the Netherlands Ministry of Justice, Netherlands National Police, and the Netherlands Ministry of Agriculture, Nature Conservation, and Fisheries.
>
> Federal search warrants were executed in New York, Florida, North Carolina, and New Mexico in coordination with other warrants executed at businesses and residences in Indonesia and the Netherlands. Officials from the Netherlands uncovered the elaborate smuggling scheme involving live reptiles, including the frilled dragon (*Chlamydosaurus kingii*), shipped out of Indonesia, into the Netherlands, and then on to other European countries and the United States.
>
> The United States is the world's largest importer of wildlife and in recent years the demand for live reptiles as collectibles and exotic pets has increased rapidly. The species of reptiles involved in the investigation, including the frilled dragon, the fly river turtle (*Carettochelys insculpta*), the green tree python (*Morelia viridis*), and two species of blue-tongued skinks (*Tiliqua gigas* and *Tiliqua multifasciata*), are highly prized by collectors in Europe, Japan, and the United States. Specimens of these species may sell in the United States for $250 to $1,500 each. These animals are protected by law in their countries of origin and their export is tightly controlled (the green tree python is also listed on CITES Appendix II). Although some of these species can be bred in captivity, the high level of demand by reptile collectors often encourages smuggling of wild-caught specimens.
>
> The Netherlands police began their investigation into the illegal trafficking of protected reptiles from Indonesia in September 1994. They gathered information for more than a year before initiating an official request for assistance through international channels to the U.S. Department of Justice. Through an agreement with the Kingdom of the Netherlands, known as the Mutual Legal Assistance Treaty, the United States and the Netherlands provide a broad range of cooperation with each other in criminal matters. Special agents of the FWS were chosen to assist the Department of Justice because of their expertise in wildlife import, export, smuggling, and illegal commercialization offenses.

The FWS and Netherlands and Indonesian authorities continue to investigate illegal trade in reptiles. Reptile smugglers in the United States face possible Federal conspiracy, smuggling, false statement, and money laundering charges. The investigations in the United States are being coordinated by the U.S. Attorney's Offices in Miami, New York City, Greensboro (North Carolina) and Albuquerque, with support from attorneys in the Wildlife and Marine Resources Section of the Environment and Natural Resources Division of the Department of Justice. Inquiries about this investigation can be addressed to Mr. Bruce Weissgold or Mr. Ernest Mayer, both with the FWS Division of Law Enforcement (703) 358-1949. [from James N. Stuart via Internet]

Golden toad update

"The breeding habitat of the golden toad has been monitored by either experienced volunteers or paid staff every year since their disappearance in 1989. There have been a couple of false alarms (e.g., *Eleutherodactylus* that are very orange) but no confirmed sightings since the single male I caught in 1989. The hypothesis we presented was not simply that rainfall was inadequate, but that the transition from dry season to wet was too abrupt and this disrupted the toads' natural breeding pattern. Alan Pounds subsequently presented an analysis of the El Niño events of the early 1980s and their possible effects on the hydrology of the site. Alan hypothesizes that the toads were extirpated by an underground drought. His paper was pub-

lished in *Conservation Biology* in about 1992 or 1993. One attempt was made to age golden toads thru skeletochronology on toe tips that were removed as part of a mark–recapture protocol. No rings were apparent in the bone. Thus we really have no idea of how long the toads live. The golden toad may represent one of the few (only?) vertebrate extinctions that has been observed and recorded by humans, but not caused by humans. On the other hand, we're keeping our fingers crossed that they will reappear, and keeping in touch with the people who monitor the habitat." Frank Hensley, Elon College & Duke University [via Internet]

10,000 box turtles to emigrate?

The U.S. Fish and Wildlife Service (USFWS) accepted public comments until March 4, 1996, before deciding whether or not to permit up to 10,000 wild-caught American box turtles to be exported from Louisiana to Europe, for pets. The New York Turtle and Tortoise Society (NYTTS) urged all turtle-lovers to reply before the deadline, which (as always) was just too short to get it into print for the majority of CHS members. However, the CHS Board of Directors authorized Jill Horwich to reply on behalf of the CHS, and her reply (see "The Tympanum" elsewhere in this issue) was sent in time.

The NYTTS press release describes the situation as follows:

> At least seven million American turtles representing dozens of species are exported annually from the U.S. to other countries, mostly to Europe and Asia. Some are used as pets while others are used as food. Turtles that are exported from the U.S. die by the thousands every year during air transport, due to improper packaging and poor treatment prior to shipment. Some turtles are shipped in cardboard boxes where they are often crushed to death under their own weight or when other boxes are stacked on top of theirs. Many turtles are shipped are wounded, dehydrated or diseased. Few turtles survive long after they are purchased because buyers do not know how to provide them with the proper diet and environmental conditions. Most turtles mature late in life and have high juvenile mortality, so human capture of wild turtles is one of the leading causes of turtle population declines worldwide. . . .
>
> American box turtles (*Terrapene* spp.), which can reach up to eight inches in length, are native to most U.S. states, except for those in the far north and west. Turtle collectors capture large, sexually mature adults, leaving wild populations depleted of breeders. This is particularly damaging to box turtle populations since the turtles can take five to 20 years to become sexually mature and lay only two to eight eggs per year. Although many U.S. states ban collection of box turtles for the pet trade, the legal trade in some states provides a cover for a substantial illegal trade in box turtles collected from states that have banned the trade.
>
> In 1994, American box turtles were listed on Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), a United Nations administered treaty governing the international commercial trade in wildlife that has been signed by 130 nations. In order for box turtles to be exported from the U.S., the USFWS must find that the export of box turtles will not be detrimental to the survival of the species and that the turtles will shipped in a humane manner. . . .
>
> In 1995, FWS allowed the export of up to 9,750 eastern box turtles (*Terrapene carolina*) from Louisiana (no other state was allowed to export box turtles). The Service's Scientific Authority admitted, in a memorandum of advice to the Service's Management Authority, that they knew nothing about the size of box turtle populations in Louisiana, the basic biology of box turtles (other than age to maturity and growth rates), the number and age of box turtles collected in Louisiana, or the effect of collection on box turtle populations. The Scientific Authority stated that "we have been asked to make our finding without having had time to conduct a thorough population status assessment or review results of any existing population or harvest potential studies in Louisiana or nearby areas." The Scientific Authority warned that "based on studies of other species of turtles or tortoises exhibiting life history characteristics similar to those of box turtles (e.g., low adult mortality, high longevity, delayed sexual maturity, low fecundity), it can be assumed that box turtle populations will not rebound quickly from adverse changes in key population parameters. General declines in box turtle densities over the past several decades in various northern populations that have been studied extensively lend support to this prediction." The Service considered the 9,750 export quota to be "cautious", noting that they believed that this figure represented half of the number of box turtles that had been collected and exported from Louisiana in 1993.

The USFWS Scientific Authority received a statement from the Louisiana Department of Wildlife and Fisheries stating that "after consultation with the Louisiana Reptile and Amphibian Task Force [the Department] has determined that there is no evidence to indicate that native box turtles are endangered or threatened in Louisiana." NYTTS maintains: "The Task Force is not competent to determine the status of box turtles in Louisiana. The majority of the voting members of the Task Force are turtle trappers and traders, posing a clear conflict of interest. By Louisiana law, the voting members of the Task Force are: Five pet dealers, three representatives from the Louisiana Department of Wildlife and Fisheries, one member of the Louisiana Wildlife Federation, one member of the Louisiana Science Teachers Association, and one representative of the Louisiana Department of Agriculture and Forestry. The three university herpetologists who advise the Task Force do not have a vote. One herpetologist recently quit his advisory role because the Task Force would not listen to him."

Other points made by the NYTTS concern lack of resilience to collecting pressures, the establishment of export quotas based on what the box turtle exploitation "industry" considers its desired level of export, the absence of valid population data, the lack of a management system for box turtles in Louisiana, the overt influence of industry representatives on the advisory board, the absence of long-term population studies to know if the populations can sustain a 10,000 per year harvest level, and the improbability that interruption of trade by legitimate businessmen would open a black market for box turtles.

The NYTTS release continues:

The synergistic effect trade and destruction of box turtle habitat needs to be addressed. In some areas, such as northeast Louisiana, box turtle habitat is being destroyed, fragmented and subjected to chemical pollution from the use of pesticides in adjacent fields. Clear-cutting and the use of fire in the management of Louisiana's forests also impact box turtles, as does road building, which increases access by collectors to box turtle habitat and also increases the number of road kills.

Captive breeding of box turtles is not feasible. Wild turtle populations may be detrimentally affected by removal of animals for breeding stock. It would be difficult to distinguish among captive-bred turtles and wild-caught ones in trade. It would take turtles years to become sexually mature and reproductive rate is low. Disease outbreaks on turtle "farms" may infect wild turtle populations.

International Air Transport Association (IATA) regulations for transport of live box turtles are routinely violated by airlines and box turtles are cleared for export by Fish and Wildlife Service agents even when these regulations are violated. Certain ports,

such as Miami and New Orleans, are well-known among turtle export-ers for their leniency. The IATA regulations for shipping turtles should be improved by eliminating the use of corrugated cardboard boxes, and ensuring that turtles are, at all times during the transport process, kept at between 65–80°F.

An article in the June, 1995 *Harrowsmith Country Life* magazine reported that "according to the USFWS, some 78,000 box turtles were shipped to Europe between 1992 and 1994." Then in winter 1994–1995, the turtles were added to CITES appendix which meant they had to have a permit to be exported. The current request for information is related to the permit application to export 10,000 Louisiana box turtles. While it is too late to officially comment on the permit application, CHS members interested in commenting to the responsible agency can write: U.S. Fish and Wildlife Service, Office of Scientific Authority, Room 750, 4401 North Fairfax Drive, Arlington, VA 22203 or by fax (703) 358-1708.

Breeding and selling tiny turtles

Remember dime-store sliders? Louisiana turtle breeders hope to bring back the ubiquitous pet of yesteryear after trying for years to overturn the Federal Food and Drug regulation which prevents domestic sale of turtles with a carapace length of less than four inches. The breeders have been busy building up an overseas market. Last year 6.5 million baby turtles were shipped out of the country. The breeders claim the babies have been cured of *Salmonella* bacteria by means of a method developed by a Louisiana State University microbiologist Ronald Siebeling. Only 2% of baby turtles hatched at the farms have been found to carry the bacteria. Turtle farming is regulated by the Louisiana Department of Agriculture and Forestry, but has recently come under fire for alleged price fixing by the U.S. Department of Justice. Farmers deny price fixing; one said, "What we've got here is the cleanest, most documented pet in the world." [The Baton Rouge, LA *Sunday Advocate*, February 5, 1995] In Mississippi, turtle farming is not as common as catfish farming, cotton, soybeans or rice farming. Even so, one farm sold 350,000 babies in one year, the offspring of 50,000 to 60,000 wild-caught breeder turtles. Two-thirds went to Southeast Asia, the rest to Canada, Europe and the People's Republic of China. Some of the offspring are retained for future breeding purposes and a very few are released in the wild. The *Salmonella* cleansing process is done to the Mississippi eggs, too, mostly by school kids earning summer money. [Houma, LA *Courier*, August 13, 1995, both articles from super-clipper Ernie Liner]

Large turtle breeding

• Turtle watchers in the Florida Keys said that 1994 was the biggest green-turtle nesting season ever, but indicate that hatchling mortality due to human influence and animal predation was high, too. Residents of the Keys are required to aim lights away from beaches and reduce interior lighting which may disorient hatchlings. Also in 1994, the toughest sentence of a turtle egg thief (to that time) was handed down for a man who took about 500 turtle eggs. He got a year in jail and paid $11,250 in fines. Volunteers are being sought for the 1996 season. [Florida Keys *Keynoter*, May 20, 1995, from Dee Fick]

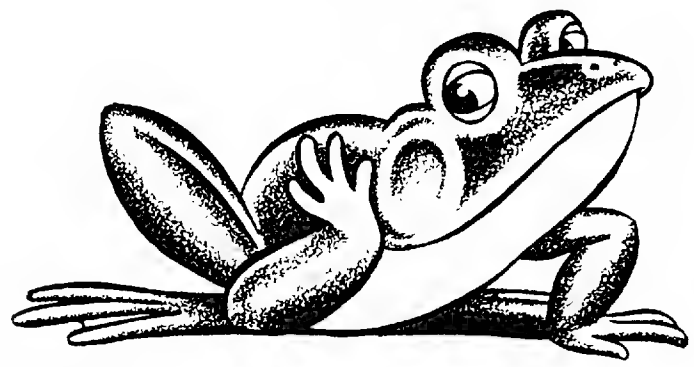
• According to researchers at the primary Kemp's ridley breeding beach, 1995 was the biggest arribada of *Lepidochelys kempi* in 18 years. Around 1,800 nests were dug—more than twice as many as the all time low of 702 in 1985. All the eggs laid on the beach are transplanted to a fenced hatchery in an effort to protect them from coyotes, coatimundis and other predators. [Center for Marine Conservation *Marine Conservation News*, Winter 1995, from Kathy Bricker]

• About a year ago, U.S. Senator John Breaux (D-LA) suggested raising more sea turtles in captivity so that shrimp trawlers would not have to be outfitted with turtle excluder devices (TEDs). [*The Courier*, May 16, 1995, from Ernie Liner] Then on August 1 environmental organizations won a court case that requires TEDs on all shrimp nets in the Gulf of Mexico. The court case continues, however and the Texas Shrimp Association has filed a proposal with the National Marine Fisheries Service (NMFS) to waive TED regulations for vessels outside a 10 kilometer limit. Then, in the budget battle, Congress proposed prohibiting NMFS from closing the shrimp fishery regardless of the number of sea turtles killed and required that only the shrimpers be allowed to monitor the number of dead turtle strandings. The last proposal was attached to a Department of Commerce appropriations bill. [*Marine Conservation News*, Winter 1995, from Kathy Bricker] In March 1996, Congress shot down a bill which would have permitted the U.S. Fish and Wildlife Service to resume listing endangered species. [R. Featherstone, via Internet]

Thanks to everyone who contributed this month and to Mark Witwer, Jack Schoenfelder, Bill Burnett, Marty Marcus and K. S. Mierzwa for stuff I read, but didn't use. Only 2.45 percent of the total CHS membership has contributed to this column in the past year. Let's up the average, hey? Send whole pages of newspaper, or clippings with the date/slug firmly attached with tape. Please put your name on every page. Return address labels work really well for this; several of my super-clippers get rid of all those freebie labels on their clippings. Others use rubber stamps, while Ernie Liner autographs each page with lovely flowing script. Send news stories to: Ellin Beltz, 1647 N. Clybourn Avenue, Chicago, IL 60614-5507. Letters only by Internet <uebeltz@uxa.ecn.bgu.edu>.

Bull. Chicago Herp. Soc. 31(4):66-69, 1996

The Tympanum



In February the New York Turtle and Tortoise Society issued an action alert, informing interested parties that the U.S. Fish and Wildlife Service (USFWS) was considering public comment on whether it should permit as many as 10,000 box turtles to be exported in the coming year from Louisiana (see HerPET-POURRI elsewhere in this issue). The Chicago Herpetological Society Board of Directors authorized Jill Horwich to write to USFWS on behalf of the CHS in opposition to such a permit. Jill sent the following letter to USFWS.

Dear Sirs:

I write on behalf of the Chicago Herpetological Society to express our opposition to the export of as many as 10,000 wild-caught American box turtles annually for use in the pet trade of any other countries. In 1994, American box turtles were listed on Appendix II of CITES. Therefore, in order to permit these animals to be exported, the U.S. Fish and Wildlife Service must find that such export will not be detrimental to the survival of the species, and that the turtles will be shipped in a humane manner.

That such export will not be detrimental to the survival of the species is simply not true. Humane handling, while theoretically possible, is routinely and consistently thwarted by wild animal trappers, dealers and shippers, resulting the deaths of thousands of wild-caught animals each year, including birds as well as reptiles such as box turtles, through cruel and inhumane trapping and shipping practices.

We are aware that the Louisiana Department of Wildlife, after consultation with the Louisiana Reptile and Amphibian Task Force, reported no evidence to indicate that native box turtle populations are threatened or endangered in Louisiana. However, the only three herpetologists on that Task Force serve merely in advisory capacities and do not have votes in its recommendations. Recently, in fact, one of those herpetologists resigned his advisory role because the Task Force did not follow his advice. The Task Force is heavily weighted with animal dealers, and therefore biased toward their interests, which not coincidentally are in complete opposition of the interests of wild animal populations.

Almost all turtle species have evolved such that survival of adults is crucial to the continuation of any population. Box turtles lay very small clutches of eggs each year. Even in undisturbed populations, the chance that any one turtle egg will hatch, grow to adulthood and become a successful member of the breeding pool is slim. Eggs and hatchling turtles are the favorite foods of many species of birds, snakes and mammals.

Additionally, extreme weather conditions in any given year may affect the hatching rate of eggs or survival rate of juvenile turtles. Juvenile turtles, therefore, are much more expendable to the species as a whole than are breeding adults. And it is the adults that animal traders capture for sale in the pet trade.

Box turtles are solitary, long-lived animals. The chance that any given individual will mate and produce a viable clutch of eggs each year is entirely dependent on its encounter rate with other turtles. Obviously, such a large strain on the state's total adult box turtle population as the removal of up to 10,000 individuals annually cannot help but to reduce geometrically the possibility that in each subsequent year any individual adult turtle will encounter another and mate.

Fish and Wildlife seems to have based many of its conclusions justifying this extremely large number of turtles for export on observations of captive collections of box turtles. These observations cannot be translated to wild populations for several reasons. In captive collections, eggs and juvenile turtles are not subject to predation, either by other animals or by humans, and do not fall victim to the vagaries of weather conditions. Therefore, they are much more likely to survive to adulthood than they would be in the wild. Also, in captive collections, adult turtles are guaranteed to encounter other healthy adults with which they can mate annually. Finally, captive animals are not routinely killed by automobiles or as a result of habitat destruction.

The truth is that so little is known about wild box turtle populations in Louisiana that no export quota can scientifically be shown to be sufficient to guarantee that such export will not be detrimental to the species. Therefore, the U.S. Fish and Wildlife Service Cannot under CITES, authorize the export of any American box turtles annually, and certainly not in such high numbers.

Based on years of observations of wild populations of American box turtles by many of the Chicago Herpetological Society's members we are of the opinion that an annual 10,000-turtle predation of Louisiana's box turtle populations will without question, damage those populations, and will probably eradicate them within a few years. We urge you to consider this country's wildlife as your primary concern, rather than the, desire of a few animal traders who make their livings by depleting our nation's natural resources, and in so considering, to decide against authorizing this export.

Thank you for your consideration. On behalf of the Chicago Herpetological Society I am

Yours very truly, **Jill Horwich**.

The following E-mail was distributed on March 21.

Science Wins. The U.S. Government announced today that the Lousiana export box turtle quota for 1996 will be zero. There simply was not enough scientifically valid evidence supplied by Louisiana to support the U.S. government giving them a non-detriment finding as they must according to CITES. (i.e., that the collection of box turtles will do no harm to the wild population.)

The official in charge was quoted as saying this was clearly and repeatedly pointed out in the overwhelming number of letters they received from herpetologists and concerned citizens.

But this is just the first victory. We expect the state to respond, and other reptiles are being exploited overseas in a similar manner. So stay tuned and keep you pens handy.

And thank you to all of you who wrote in and spread the word.
Allen Salzberg, New York Turtle and Tortoise Society
<ASalzberg@aol.com>

The letter below was not written by a CHS member, was not addressed to the CHS and was not even directly submitted to the CHS for publication by the author. Neither the CHS Board of Directors nor the Editor of the Bulletin *necessarily agree with all of the positions taken in the letter. However, although it deals with a regulatory policy that is unique to the state of Massachusetts, the letter strongly makes a number of points that should have relevance for all of us. It is unfortunate but true that the trend in recent years has been toward restrictive local and state laws dealing with the ownership of reptiles (usually included under the rubric of "exotic" or "dangerous" animals). And even more unfortunately, in virtually all cases these laws are being promulgated by persons who haven't the slightest clue as to what herpetoculture as a hobby is all about. This letter was called to the attention of the Editor by HerPETPOURRI columnist Ellin Beltz, who received a copy via E-mail. Mr. Phil Averbuck, the letter writer, has given explicit permission for it to be reproduced here, despite having been greatly abridged due to space restrictions. If you have any questions or comments about the letter, Mr. Averbuck would like to hear from you. You can write to him at the address that appears at the end of the letter or you can reach him by E-mail at <PhilAver@aol.com>.*

Mr. Tom French
Division of Fisheries and Wildlife
100 Cambridge St.
Boston, MA 02202

January 22, 1996

Dear Mr. French:

I am writing to you today as a long-time reptile/amphibian enthusiast, an attorney, and a life-long citizen of Massachusetts. I respectfully request that your Department change its approach to the regulation of reptiles and amphibians in our state . . . .

I am aware that your Division amended your rules just a few months ago (July 1995), and those changes were well appreciated. However, the very nature of the changes tended to emphasize the archaic approach our state has had since the rules were first promulgated in the 1970s. . . . Until July 1995, a license was required to own such reptiles as the leopard tortoise, spur-thigh tortoise, prehensile-tailed skink, and the scarlet kingsnake. . . . It seems clear that those rules were long outdated. (Not to mention the recent change in state law which finally allowed ferrets to be legally owned here—we just joined 48 other states on that one.)

Given the recent changes, I was hopeful that one of my favorite groups of reptiles would be added to the exempt list: monitor lizards. However, they were not. Nor were a number of very popular reptiles, including Old World chameleons, emerald tree boas, or pancake tortoises; one species, the green tree python, was even removed from the exempt list, so that it now requires a license, which it didn't until July 1995.

I focus on these five groups because I think they best illustrate the archaic approach our state takes with regard to regulating captive reptiles. As an attorney, I can recognize three legitimate reasons for the government to regulate captive animals: they may be a potential danger to the public; they may potentially endanger other animals or plants (either as pests, or carriers of disease); or they may be very rare. Our state seems to be unique in discerning a fourth reason to regulate captive animals: they may be overly "demanding" to care for. I believe this is a mistake, and has lead to a situation riddled with contradictions and unhappy consumers.

As I have studied the rules issued by the Division, I have been impressed by the number of "Catch-22" situations they create. I of course always assume the good-faith intentions of our public servants, so I must conclude that these Catch-22s were unintentional. Therefore, I hope you will take note of the examples I will describe here.

The Division's rules are clearly concerned with "alien" animals colonizing here in Massachusetts. This seems to incline the Division in favor of more tropical species, and against herptiles from a more temperate climate. The Division also has a bias against reptiles whose care is "demanding." Yet, in our northern state, almost by definition a tropical herp will have more demanding captivity requirements. I believe that this creates a built-in conflict: Northern herps are less demanding—but they might escape and colonize. Tropical species can't colonize—but they are more demanding. Therefore, these criteria arm the authorities with a "Catch-22" weapon to argue against a permit for a herp enthusiast—no matter what animal he (or she) chooses.

Now, I fully understand and sympathize with the intent of the "demanding care" criterion: to minimize the number of animals dying miserable deaths from neglectful owners. But this policy only shifts the wasteful deaths: instead of monitors or chameleons dying, it is anoles or green iguanas. The number of animals dying remains the same, only the type of animal dying changes. In fact, the policy probably increases the number of individual animals that die: monitors and chameleons generally cost upwards of $75 each, a relatively substantial sum, and much more than anoles or iguanas. A person will obviously devote more attention to a higher priced animal—it has a higher replacement cost, after all—than a lower priced one. To the best of my knowledge, this logic is completely unaddressed by the current policy.

Nor does this policy seem to take any cognizance of the fantastic strides in herpetoculture achieved in just the past 5–6 years. When I was a member of the old Massachusetts Herpetological Society in the 1970s, it was almost unheard of that someone in

the United States would breed and hatch a tropical species. Now, it is the reverse: it is hard to find a single popular species that is not being successfully bred—by AMATEURS! (Some of them are too young to legally buy a beer).

Another great development has been the growth of magazines and newsletters geared to reptile and amphibian hobbyists. As I recall the type and variety of those informational resources back in the 1960s and 1970s, I feel confident in saying that there is more hobbyist-oriented information published in one month now than there was in the entire decade of the 1960s.

And the computer on-line revolution has enabled the most cutting-edge herpetocultural knowledge and techniques to be spread worldwide, almost instantly. Have you ever logged on to the herptile forums on America Online, Compuserve, or the RPH newsgroup? You will see exceedingly qualified and experienced herp keepers—people like Richard Bartlett, Melissa Kaplan, Michael Balsai, and Steve Grenard—giving first-hand advice to novices, and anyone else who chooses to read it. Care sheets are routinely downloaded from the on-line services, home pages and the World Wide Web.

Given these new developments, I am hopeful that the Division will make a serious effort to shift your regulatory approach from a 1960s-orientation to a 1990s-orientation. In the 1990s, we can safely assume that any potential herp-owner is, at most, one contact away from the very best care information. That is, everyone today either subscribes to an on-line service, or has a friend who does. This situation is a far cry from the 1960s and 1970s, when there were far fewer serious herp-keepers, and the capacity to publicize detailed care information was much more limited. . . .

I don't like to criticize a system unless I have some constructive suggestions to improve it. In that spirit, I hope you will adopt at least some of my own suggestions, which are intended to minimize or eliminate these Catch-22 problems, and make for a more satisfying herpetology for hobbyists, while improving the welfare of the animals.

#1--"Innocent Until Proven Guilty"

If the intent of the Division is to ensure responsible care for animal, wouldn't it do better to establish a system operating on the "innocent-until-proven-guilty" principle? For example:

1. An applicant is automatically given a one-year permit when he obtains a nonexempt animal.

2. In order to have it renewed, he needs to show he brought the animal to a veterinarian within, say, two months of the original permit. . . .

#2--"Pet" Should Not Be a Dirty Word

The Division should eliminate the "one size fits all" requirement that only self-described "commercial propagators" need apply for a license. If someone wants to have a nonexempt reptile (or two) for a pet, the state should protect that right, not deny it (except for threatened animals or public safety/health exceptions). Accordingly, the state should give citizens the option of obtaining a "hobbyist's license" for listed reptiles. You could allow the hobbyist's license to apply for citizens with a small number of animals, and perhaps charge the hobbyist a somewhat higher fee per animal (this would encourage real propagators to identify themselves). The hobbyist-license option would also encourage more candor and mutual respect between the Division and reptile enthusiasts.

#3--Drop "Demanding" Criterion

The Division now uses four criteria to determine whether a species will be exempt from the license requirement or not. Three of them are scientifically based, and unobjectionable: low risk that an accidental release will harm the state's ecology; no substantial danger to humans; and trade in the animal will have no adverse effect on wild populations. However, the fourth criterion is completely subjective and vague: "Proper care of the animal is no more demanding in any major respect than proper care of domestic animals."

First, this criterion enables the Division to declare any reptile nonexempt, since "demanding" is such an elastic and ambiguous concept. As I have mentioned above, in a northern state such as ours, virtually any tropical or desert reptile is in some sense demanding—it requires an artificial source of heat, and (probably) full-spectrum light. Beyond that, what does "demanding" mean? As for comparison with common domestic animals: Well, I think even a common dog or cat is more demanding than almost any individual reptile. That is why so many working people are attracted to reptiles these days, precisely because they are less demanding than traditional pets like dogs or cats.

Secondly, the Division's application of the criterion has been questionable. For example, green iguanas and tegu lizards are exempt—is their proper care really less demanding than that for a savannah monitor? Is a green tree python (max. size, about 6 feet) really less demanding than a Burmese python, which reaches 21+ feet and a weight of nearly 300 pounds? Yet it is the smaller python that requires the license.

Thirdly, this criterion reflects a paternalistic relationship between the state and the citizen: "I know what's best for you, and I think this is too demanding for you to try. So I won't even let you make the attempt." I think this relationship is outdated and out of place in a free society in the last half of the last decade of the last century of the millennium. I hope you will agree.

Again, I appreciate the benign intent behind this rule—to prevent uninformed "impulse buyers" from buying an animal that will almost surely die from neglect. However, as I mentioned above, this criterion really only shifts the deaths (from listed to unlisted species), and doesn't take into account the tremendous explosion in reptile-care knowledge and techniques which has occurred in recent years.

My suggestion would be to abolish the "demanding care" criterion for any kind of "possession" license, but—for those animals agreed by scientists to be "less hardy"—to require sellers (pet shops and propagators) to provide a care sheet with each sale. This would be easy for the Division to monitor, and would restore a proper level of dignity and respect to the citizen. (A minimum-age requirement might also be appropri-

ate for someone who wishes to buy one of these "less hardy" species.)

In fact, I think the Division would do well to re-orient its policies so as to focus on public establishments, such as pet shops, rather than private homes. It has been my observation that the two largest factors in death-by-neglect of "demanding" herps are a) overcrowding of animals, and b) inexperienced buyers choosing inappropriate animals. Both of these factors could be drastically reduced by simply focusing the Division's efforts on pet shops, and other real propagators. Such a re-orientation toward public facilities would also avoid the potential privacy-intrusion which has dissuaded so many hobbyists from applying for permits, as I described above.

#4--Use Proper Discrimination

I think the Division should see "discrimination" as a good thing. For example, there are more than 40 types of monitor lizards, and they range from southern Africa and Australia north to the steppes of Eurasia. Some of them are huge (7–9 feet in length), some of them are medium sized (3–5 feet), and some of them are small (1–2 feet). A number of species have proven to be fine "pet" animals, yet the Division requires a license for every one. The same blanket rule applies to all Old World chameleons (which don't even get bigger than 2 feet), and we know a number of chameleon species have been captive-bred with great success in recent years.

The first definition of "discriminate" in my dictionary is, "to have good taste or judgment." I think the Division should take a second look at the blanket license requirement for the monitors and chameleons, and see if they can't exercise a little discrimination so as to make the rule truly rational. That is, to reserve the permit list for those species which, even under 1990s conditions, have shown to be difficult or dangerous captives.

For example, we can ask the question: Is there any factor in the current regulations which encourage a hobbyist to obtain a "less demanding" species as opposed to a "more demanding" type? Is there anything to encourage owning a Timor monitor (max. size, 2 feet) rather than a water monitor (max. size, 8 feet)? Since the answer (now) is "no," I hope you will agree that a discriminating approach would be a sensible improvement.

If this reform was combined with the "innocent-until-proven-guilty" license I described earlier, I am confident that only the more dedicated herpers would try to acquire those animals you still deemed worthy of a license, while less experienced people would be matched with easier animals to keep. This would help ensure the welfare of the animals while protecting the dignity and privacy of the citizens. And this is, I believe, the fundamental purpose of the regulatory structure. . . .

Finally, I hope you will keep in mind the tremendous frustration of many Massachusetts herp enthusiasts that our state seems uniquely inhospitable to our hobby. When I speak with herp people from other states and tell them that (for instance) chameleons require a license here, they first think I'm joking, but then they just laugh when I tell them it's true—even people who tend to favor strict regulations.

To demonstrate our oddball status in a different way, I have enclosed here copies of the Classified Ad sections from recent issues of *Vivarium*, *Reptile & Amphibian*, and *Reptiles* magazine. In these ads alone, I counted at least 70 classified advertisements for reptiles that require a license in Massachusetts, including 11 ads for emerald tree boas; 17 ads for green tree pythons; 2 ads for pancake tortoises; 26 ads for chameleons; and 14 ads for monitors. (And these ads do NOT include such large national dealers as Crutchfield's, Glades Herp, St. Louis Lizard, East Coast Reptiles, Serpent's Den, and dozens of others.). Most of these ads were for captive-bred animals. Don't you agree that it is anomalous for such animals to be easily available to reptile enthusiasts practically everywhere else in the United States, while we here have to apply to the government as if we were importing a semi-automatic weapon?

And doesn't the Division have some economic interest in encouraging the captive propagation of these animals here? I know that the Commonwealth will technically allow such propagation, but the real-world fact is that no serious herp breeder will work out of our state because such a large chunk of the local market is frozen out, plus the ever-present regulatory threat. Why breed in Massachusetts and go through these difficulties, when you can move just across the border (like New England Reptile Distributors in Plaistow, NH) and operate freely? Note well: in all of those classified ads, there is not one from our state. Not a single one. What does this say for the friendliness of our state's regulatory environment toward reptile breeders?

And because of our oddball status, we by default abandon the reptile marketplace to states which have fewer—or no—regulations regarding care. Wouldn't it be better to adopt some changes which would give much-needed oxygen to our in-state herpers? Then our state's herps, raised according to higher standards, would be able to compete in the marketplace. As these ads show, we are decisively locked out, now.

I hope you will take these comments in the spirit they are intended. I have put a lot of time and effort into this letter, so I hope you will feel it is worthy of a substantive response. Thank you for your kind attention and patience, and I look forward to your reply.

Sincerely yours, **Philip Averbuck, 6D Locust Lane, Watertown MA 02172, E-mail: <PhilAver@aol.com>.**

Bull. Chicago Herp. Soc. 31(4):70-71, 1996

Herpetology 1996

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editors assume full responsibility for any errors or misleading statements.

INFAUNAL "MINING" BY LOGGERHEAD TURTLES

A. R. Preen [1996, J. Herpetology 30(1):94-96] notes that the loggerhead turtle, *Caretta caretta*, is a generalist carnivore, feeding primarily on benthic invertebrates, including gastropods, bivalves, crabs, shrimps, sea-pens, sponges, tube worms, holothurians and urchins. He observed loggerhead turtles in subtropical Moreton Bay (27.5°S, 153.3°E) in southeast Queensland, Australia. He describes a method of foraging, analogous to trench mining, that is used by adult-sized loggerhead turtles to feed on a variety of infauna from below the sediment surface. To access the infauna, foraging loggerheads dig body pits in the sediment, and use their foreflippers to erode the sand wall in front of their faces. The turtles then feed from this eroding wall, picking at individual organisms as they are exposed. As the turtles erode the "quarry face," the body-pits slowly advance through the sediment, creating distinctive feeding scars. The author observed and photographed three mining turtles from underwater and 10 from above the surface from a 4.3 m boat. Hundreds of the scars created by infaunal mining were noted during 28 aerial surveys, conducted to census dugongs, between July 1988 and February 1990. The feeding scars were seen at depths of up to 4 m, but only in areas with a very sparse cover of seagrass.

SURVEY OF SEA TURTLE NESTING IN FLORIDA

S. A. Johnson, K. A. Bjorndal and A. B. Bolten [1996, Chelonian Conservation and Biology 2(1):60-65] report that numerous organizations, operating under guidelines and permits issued by the Florida Department of Environmental Protection (FDEP), conduct organized turtle watches to provide the public with the opportunity to observe a nesting loggerhead turtle. To develop recommendations designed to enhance such ecotourism, the authors distributed questionnaires to 1319 participants of organized turtle watches in Florida during the 1994 sea turtle nesting season; they received 488 completed responses. The program is viewed very positively and almost all respondents would recommend it. Demand for participation has always exceeded availability, and this lack of tourist accessibility is currently the program's greatest drawback. Their primary recommendation is that the current program should be expanded. Approximately one-third of respondents indicated that they had previously been unable to participate because of limited availability. They recommend that turtle eggs not be handled by participants and that participants view a video depicting the nesting process prior to actually observing a turtle on the beach. These recommendations and current FDEP guidelines, although designed specifically for Florida beaches, may be applicable to sea turtle watch programs elsewhere. When conducted under proper conditions, ecotourism on sea turtle nesting beaches will benefit both visitors and sea turtle conservation efforts. However, the activities of visitors must be regulated so that the turtle population is not jeopardized.

FUNCTIONS OF UNUSUAL HEAD SCALES IN A SEA SNAKE

M. L. Guinea [1996, J. Herpetology 30(1):126-128] notes that the turtle-headed sea snake (*Emydocephalus annulatus*) and its close relative *E. ijimae* from the South China Sea feed on eggs of bleniid and gobiid fishes. These species share unusual modifications of the head scales: The rostral scale is convex in both sexes but prolonged into a spine in adult males. The second supralabial scale and the third infralabial scale are elongate and occupy the greater part of the oral margin. The author observed many *E. annulatus* in the wild on Ashmore Reef (12°15′S, 123°00′E) during the period 24–30 September 1994. Mating *E. annulatus* were observed at a depth of 5 m on 28 September. The male repeatedly prodded the back and neck of the female with his rostral spine. Snakes were also observed as they fed. A snake was seen to brace its body between coral branches and then place its head beside another branch. The snake kept the supralabial scale in contact with the coral branch and rapidly nodded its head dorsoventrally along the coral branch. The snake performed several episodes of rapid head movement along the same coral branch. Between bouts of rubbing the coral with its labial scales, the snake darted its head forward open-mouthed and snapped up something in the water. The author was unable to identify the small objects that the snake ate. Two neon damsel fish (*Pomacentrus coelestis*) were very agitated by the snake's presence and made repeated attacks at its head. The author interprets the snake's behavior as one of feeding by using the enlarged supralabial scale to scrape the eggs of the neon damsel fish from the coral branch. Subsequently, the author watched at least two *E. annulatus* each day scrape coral branches with the enlarged supralabial scale.

TERRESTRIAL ECOLOGY OF POND-BREEDING AMPHIBIANS

J. H. K. Pechmann [1995, Herpetologica 51(4):434-450] reports that the terrestrial stage of pond-breeding amphibians has been the subject of few ecological field experiments, partly because terrestrial individuals of many species are difficult to capture, observe, and manipulate. The author tested a new strategy for sampling terrestrial, fossorial, pond-breeding amphibians within large field enclosures. *Ambystoma opacum* and *A. talpoideum* were placed in 225 m^2 enclosures shortly after metamorphosis. Pitfall traps were placed along the enclosure walls to capture individuals when they reached maturity and attempted to migrate to a breeding pond. Data were obtained on survival to, age at, and size at first reproduction comparable to data obtained from natural populations using drift fences with pitfall traps located at breeding ponds. Doubling density in the enclosures by adding an equal number of either the same or the other species had no statistically significant effect on survival to first reproduction of *A. opacum*.

ALLIGATOR SNAPPING TURTLE STOMACH CONTENTS

K. N. Sloan, K. A. Buhlman and J. E. Lovich [1996, Chelonian Conservation and Biology 2(1):96-99] collected data from alligator snapping turtles, *Macroclemys temminckii*, sold by commercial turtle trappers to a Louisiana processing firm that requested anonymity. Stomach contents were examined from 65 adult *M. temminckii* (53 females, 11 males and one sex undetermined) collected from 27 March to 26 October 1986. Mean carapace length for males ($\bar{x}$ = 49.46 ± 7.04 cm, n = 11, range = 36.0–57.1 cm) was significantly different from that of females ($\bar{x}$ = 43.08 ± 4.32 cm, n = 53, range = 35.0–50.9 cm). Acorns (*Quercus* sp.) were consumed by 28 turtles and represented the most abundant food item by weight ($\bar{x}$ = 129.7 g, range = 1–643 g) and by volume ($\bar{x}$ = 120.1 ml, range = 1–685 ml). The abundance of acorns and other nuts in the diet of alligator snapping turtles was surprising to the authors. They speculated that these turtles may play an important role as seed dispersers and germination enhancers as whole seeds pass through the digestive tract intact and are deposited with the feces. The authors caution that because of variation in digestive rates of different food items, the actual weights and volumes of food items may be misleading. For example, acorns were often found whole, whereas crayfish might be represented by a single claw or fish by several scales. After acorns, the next most abundant items by both weight and volume were mammal, bird, fish and persimmon, respectively. Fish were consumed by 37 turtles and represented the most commonly consumed item by frequency percentage. The authors emphasized that alligator snapping turtle populations are heavily exploited and likely declining. They recommended that management strategies for rivers and wetlands in the southern U.S. should include efforts to protect turtles such as *Macroclemys*.

REPRODUCTION AND PARENTAL CARE OF THE CORONATED TREEFROG

K.-H. Jungfer [1996, Herpetologica 52(1):25-32] used water filled containers to study the reproduction and parental care of the coronated treefrog, *Anotheca spinosa*, in captivity. Between 48 and 311 eggs ($\bar{x}$ = 157.8) were laid in a single, discontinuous layer above the water surface. The male abandoned the container immediately or 6–7 days after oviposition. Few eggs were fertilized and only 1–25 larvae per clutch hatched. The female subsequently returned to the container depositing eggs either above the water when the male was still present or under the water surface when the male was absent. The unfertilized eggs were eaten by the larvae. She returned in intervals of 1–14 ($\bar{x}$ = 4.85) days feeding larvae as long as they touched and slightly sucked her skin during her visits. If this behavior was interrupted by metamorphosis or experimentally, the female did not lay unfertilized eggs but approached a calling male. Metamorphosis was reached after 60–136 days, depending on the number of larvae present. Larvae that did not receive nutritive eggs regularly either starved and were eaten by their siblings or survived until the latter had completed metamorphosis, at which time they were able to obtain nutritive eggs again.

EFFECTS OF DROUGHT ON AQUATIC SNAKES

R. A. Seigel et al. [1995, Herpetologica 51(4):424-434] note that during the summers of 1985–1987, the southeastern U.S. suffered a drought equaled in severity only five times since AD 372. We monitored the abundance and population structure of five species of aquatic snakes before, during and after this record event in South Carolina. There was significant variation among species in response to drought conditions. Based on capture records before the drought, *Nerodia fasciata* and *Seminatrix pygaea* left the study site in relatively high numbers whereas *Nerodia floridana* left in relatively low numbers. We found significant variation in the timing of movements among species; *N. fasciata* left the site mainly in 1986 and 1988 whereas *Seminatrix pygaea* left the site mainly in 1987. We suggest that *N. fasciata* left the site in direct response to low water levels whereas *S. pygaea* left in response to the absence of suitable prey. Snakes exited the site using discrete, nonrandom corridors. Long-term changes in abundance and species composition were marked; the prey base was altered radically, overall abundance of snakes was lowered, and *Nerodia floridana* was not seen at the site for five years after the drought. The results of the study support earlier suggestions that long-term data on populations are needed to determine whether population declines result from natural or anthropogenic factors.

A NEW COLOMBIAN FROG

J. D. Lynch [1996, Copeia 1996(1):103-108] describes *Eleutherodactylus douglasi* , a new species from cloud forests of the northern Cordillera Oriental of Colombia. It is hypothesized (based on vertebral fusion) to be the sister species of *E. delicatus*, known from comparable elevations on the Sierra Nevada de Santa Marta of Colombia. The proposed phylogenetic relationship between these two species is significant because it provides the first cladistic evidence for a biogeographic connection between the separate ranges of mountains on which they occur. The sister species to these two species is *E. galdi*, known from cloud forests on the Amazonian slopes of the Andes in Ecuador. The three species are the only members of the *E. galdi* species group.

EMYDID TURTLE RELATIONSHIPS

J. W. Bickham et al. [1996, Herpetologica 52(1):89-97] report that nucleotide sequence data from a segment of the mitochondrial 16S ribosomal RNA gene support the partition of emydid turtles into two distinct subfamilies. Phylogenetic analysis identifies two major clades and corroborates previous morphological assignments of genera to the subfamilies Deirochelyinae and Emydinae. Within the subfamily Deirochelyinae, *Deirochelys* appears to be the sister taxon to all other genera in the subfamily, and support is found for a clade that includes *Trachemys*, *Graptemys*, and *Malaclemys*. However, the other generic relationships within this subfamily are not well resolved. Within the Emydinae, the genus *Terrapene* is monophyletic. On the other hand, the genus *Clemmys* is paraphyletic, necessitating a new generic arrangement of the species now considered to be in *Clemmys*, *Emydoidea* and *Emys*.

Advertisements

American Federation of Herpetoculturists: A nonprofit national membership organization of herpetoculturists, veterinarians, academicians and zoo personnel involved in the captive husbandry and propagation of amphibians and reptiles. Membership includes highly acclaimed magazine, *The Vivarium*, dedicated to dissemination of information on herpetocultural accomplishments, herp medicine, breeding and maintenance, field studies and adventures, enclosure design and much more. AFH membership is $26. Send information requests to: AFH-News, P.O. Box 300067, Escondido CA 92030-0067.

Animal Phobias? Do you have friends/family who are phobic about your pets and want to get over it? Simple, effective treatment by a licensed psychologist is available. David Carbonell, Ph.D., (312) 946-9461 or (847) 605-0453.

Attention: A database (studbook) for Egyptian tortoises (*Testudo kleinmanni*) is available to persons who currently own Egyptian tortoises and are interested in long-term captive breeding of the species. The purpose of this studbook is to keep a large diverse gene pool of captive tortoises to avoid long-term problems associated with inbreeding. There is no charge for this service. Interested persons should call Dan at (303) 347-0394 (evenings only please) or fax (303) 347-1172 (24-hour). [CO]

For sale: rats and mice—pinkies, fuzzies and adults. Quantity discounts. Please send a SASE for pricelist or call Bill Brant, *THE GOURMET RODENT*, 6115 SW 137th Avenue, Archer FL 32618, (904) 495-9024.

For sale: top quality mice, rats and Chinese dwarf hamsters. All sizes at competitive prices. Gary W. Allison, 919 Wyandotte Street, Bethlehem PA 18015, (215) 974-8975.

For sale: murine-pathogen-free rats and mice available in all sizes, live or frozen: pinkies, fuzzies, crawlers, small, medium and large. Frozen crawler mice in lots of 2000, $.17 each. Also available, full grown hairless mice. FOB shipping point. Master Card accepted. Call (518) 537-2000 between 8:00 A.M. and 5:00 P.M. or write SAS Corporation, 273 Hover Avenue, Germantown NY 12526 for prices and additional information.

For sale: high quality feeder mice. Shipped UPS Next Day Air. All mice are properly processed to insure a quality product. Fourth year of production and supply of frozen feeder mice. Prices: pinks, $25/100; fuzzies, $30/100; weanlings, $35/100. Also available are 4 oz.+ rats, $100/100. Quantity discounts available. The Mouse Factory, P.O. Box 85, Alpine TX 79831, (915) 837-7100, Ray Queen.

For sale: In stock, Flex-watt and Ultra-therm heating products. **Frozen rodents** always available. Mice: pinks–crawlers, 3/$1; weanlings, 40¢; subadult, 50¢; adults, 65¢; large adults, 75¢. Rats: small, 85¢–$1; medium, $1.25–2.00; large, $2.25–2.75; jumbo, 3/$10. Call on quantity discounts [note: discount on orders picked up at CHS meetings]. Live rodents available at higher prices. **Available now**: newsletter/catalog—many unique/hard-to-find herp husbandry items. Send business-size SASE for catalog, or call. Scott J. Michaels, D.V.M, Serpent City, P.O. Box 657, Island Lake IL 60042, (815) 363-0290.

For Sale: **Reptile D-lights.** Our 8% is the first and only fluorescent light bulb that duplicates the UV-B output of the sun while having an excellent color rendition (CRI 91). Let your reptile make *exactly* the right amount of vitamin D. Stop under- or overdosing with all those powders. A must-have for iguanas, uromastyx, bearded dragons and all diurnal basking lizards. Get yours now! Available in 18″, 24″, 36″, 48″. $34.95 each plus shipping. In California please add 7.75% sales tax. Dealer inquiries invited. Scott Solar (909) 627-3274; 9 – 9 Pacific Time or; Reptek@aol.com anytime. For Animal Use Only.

For sale: reptile cage disinfectant and deodorant. Kills many types of infectious disease detrimental to herps. $3.91 for 2 oz (makes 1 gallon). Wholesale and quantity prices available. Make checks payable to Bengal Pets, Inc., 1088 Chapman Road, Jesup GA 31545, (912) 530-6384.

For sale: used mouse-breeding racks, 36 trays per rack, complete with water bottles, trays and fresh breeding stock, $360 per rack. Very space efficient (17″ × 55″ × 80″h). Discounts available on multiple racks. MC/VISA accepted. The Gourmet Rodent, (904) 495-9024.

For sale: custom wooden reptile cage, 6 × 2 × 2, full-removable safety glass front, complete with vented, hinged top, and side handles for easy transport. Comes also with wooden stand, 6 × 2 × 2½, with handy storage shelf. Great for lizards or snakes, $200. Inquiries welcome, Judy Kalnins, (708) 858-8284.

For sale: custom reptile cages. All cages include partially heated melamine floors, lighting, glass front. Available in all sizes; $75 and up. Creature Comfort, (708) 896-1703.

For sale: amphibian and reptile books. New, out of print and rare, over 4500 listed. My new 1996 96-page general natural history book list, which includes herpetological books as well, is also available. Send $2 for postage, refundable with any purchase, to: Herpetological Search Service & Exchange, 117 E. Santa Barbara Road, Lindenhurst NY 11757.

For sale: **Gila monster T-shirts**. SSAR Silver Anniversary poster of David Dennis' Gila monster watercolor in full color on 100% preshrunk cotton T-shirt. Shirts come in white or pink, adult sizes S–XL ($16.00), XXL ($19). Add $2 s/h first shirt, $1 s/h each additional shirt. Send check or money order to E.C.O., 325 W. Oakland Avenue, Lansing MI 48906 (donation from each shirt goes to SSAR).

For sale: thinning out turtle collection. One 7″ mata mata, $350; two 4″ Australian snakeneck turtles, *Chelodina longicollis*, $200 each; one 5″ redbelly, *Emydura subglobosa*, $60; one 6″ female diamondback terrapin, $75; one 8″ Guadalupe spiny softshell, $25. Wayne Roepke, (847) 398-3733.

For sale: **Greek tortoises**, long term captives, very healthy and active. Dan, (303) 347-0394, eves. and weekends. [CO]

For sale: c.b. frilled dragons (*Chlamydosaurus kingi*), well started, 4 tot 5 months old, $475 each; yellow-phase bearded dragons (*Pogona vitticeps*), $65 each or quantity discounts. Also, c.b. geckos—New Caledonia geckos (*Rhacodactylus auriculatus*), $135 each; Australian velvets (*Oedura castlenaui* or *O. monilis*), $75 each. Frog-eye geckos—*Teratoscincus scincus*, $40 each; *T. microlepis*, $45 each; *T. keyserlingi*, $60 each. Banded geckos (*Coleonys mitratus*), $30 each and possible adult pairs available. Philip Tremper, P.O. Box 264, Clintonville WI 54929, (715) 823-5873.

For sale: captive-bred Dumeril's monitors, *Varanus dumerilii*, $330 (10% discount to herp society members, $297). Hatched January '96, unrelated bloodlines expected May '96. Mike, (770) 987-3933. [GA]

For sale: one subadult female *Abronia graminea*, $650. Joel Sayre, 3220 Sierra Drive S., Seattle WA 98144, (206) 725-8684.

For sale: 1996 prospective hatchlings. Trans-Pecos ratsnakes, $35 each; Baird's ratsnakes, $25 each; Mexican hognose, $35 each [permit needed in Illinois]; western hognose, $25 each [permit needed in Illinois]; prairie kings, $25 each; California kings, $25 each; greybands, various locations, $100 and up; *ruthveni*, $75 each; Durango mountain kings, $100 each; Mexican black kings, $40 each; Mexican milksnakes, $50 each; Pueblans, $50 each; red milks, $35 each; albino speckled kings, $50 each; *thayeri*, $100 each; Arizona mountain kings, $125 each; rosy boas (*roseofusca*), $75 each. Prices subject to change. Quantity discounts. Steve Mitchener, 2928 Kerry Lane, Oklahoma City OK 73120, (405) 748-6566 after 6 P.M. Central Time.

For sale: tricolors, albinos and a few secret projects. Send SASE for free price list. Robert Applegate, P.O. Box 338, Campo CA 91906, (619) 478-5123. Also, free husbandry consultation by phone, as a service to the herp community.

For sale: one male and one female 5′ c.b. Cuban boas, $650; one male and one female c.b. '95 anerythristic boas, $300; one male and two female c.b. '94 sand boas (*Eryx conicus*), $350; one male and one female Bay of L.A. rosy boas, adult c.b., $350; one male "Dome Rock" rosy boa, $200; one male and one female c.b. '95 *Lampropeltis pyromelana knoblochi*, well started, $900. May trade. Doug, (707) 745-5583. [CA]

Advertisements (cont'd)

For sale: wide selection of captive-bred reptiles from private breeder. Specializing in colubrids but not limited to such. Competitive pricing and always willing to discount for quantity orders. Call or SASE for this year's price list. Troy, 1954 State Road F, Fulton MO 65251, (573) 642-9422.

For sale: three male and two female c.b. '95 Kenyan sand boas, $325/group. Mike Wood, (219) 269-7664 evenings. [IN]

For sale: adult male coastal rosy boa (*Lichanura trivirgata roseofusca*). Tonya Maris, (312) 243-6642.

For sale: one male and one female orange tail boas (hypomelanistic) c.b. 1/96 from Jeff Gee, very nice (not heteros), $2000/pair; one male and one female anerythristic Kenyan sand boas, c.b. 3/21/96, $650/pair; one male and one female Cook's tree boas, c.b. 10/95, nice colors/patterns, eating mice/rats, $275/pair; one male and one female Borneo blood pythons, c.b. '95, nice contrast/colors, $195/pair; 3′ female Borneo blood python, c.b. '94, $125; 4′ male jungle carpet python, c.b. '94, Sipperley stock, nice, $450; 2½′ male diamond × jungle carpet python, c.b. '95, developing nice color/pattern (speckling), $425; one male and one female Nuevo León kings, "leonis phase," c.b. '95, very nice colors/patterns, $235/pair; one male and one female San Luis Potosí kings, c.b. '95, light gray/bright red, $150/pair. Call (619) 265-7557 (fax or phone). [San Diego]

For sale: Increased hours at work! All of the following groups of animals are totally unrelated "hand-picked" gems. One male and two female c.b. '93 Brazilian rainbow boas (ready to breed this next season), $900/trio; one male and one female c.h. '93 ball pythons (female has nice coppery coloration and male is 100% striped), $300/pair; one male and two female c.h. '93 Sinaloan milks, $300/trio. Extra males—c.h. '95 "hi-yellow," ⅔ chance hetero, northern pine, $25; c.h. '95 double-hetero (amelanistic and anerythristic) bull snake, $75. Anybody who has seen my collection knows that I've only got the "best of the best"—this is a hobby and not a business! Steven E. Snow, (815) 624-8204. [Rockton IL]

For sale: captive bred animals. One male and five female boa constrictors, adult breeders, 5–7′, $150–250 each; one male and two female Colombian rainbow boas, two adults, one subadult, $400/group; one male and two female ball pythons, breeders, 4–5′, $200/group; one male and one female tangerine-phase Honduran milksnakes, $400/pair; two-year-old male albino Cal king, $60; yearling female Baja kingsnake, $40; albino male San Diego gopher snake, $60; yearling female albino Sonoran gopher snake, $75; two-year-old female high-yellow Cal king, $65. Coming soon, c.b. Pueblan milks, $60; albino Cal kings, $40; normal Cal kings, $20; black rat snakes—albino, $40, hetero for albino, $15; carpet pythons, $150; Colombian boas, several bloodlines, $75. Creature Comfort, (708) 896-1703.

For sale: Anticipated 1996—11 localities of *Boa constrictor* and three localities of *Python curtus*. Babies available May – October. Send SASE for price list. Serpentim, RR8 Box 130A-1, Greenville TX 75402, (903) 454-1312.

For sale: captive-bred snakes. Blood pythons, Burmese pythons, Kenyan sand boas, black rat snakes, bull snakes. Will deliver in Chicago metro area or ship from O'Hare Airport. Joan Moore, (312) 528-4631.

For sale: LIVING JEWELS' investment-quality boas & pythons. Expected soon—captive-born Angolan pythons, black-headed pythons, womas and diamond pythons...all better than mutual funds! Also expecting lemon-yellow jungle carpet pythons, Aru Ialand chondros, high-pink Dumeril's boas, Peruvian and Suriname red-tail boas, and more. All c.b. at our facilities. Serious inquiries only, please. PLUS, we carry a large selection of the highest quality herp dry goods including 18 × 24″ heavy-duty hemostats, sugical stainless steel snake sexing probes and snake hooks, and Herptime wall clocks. For dry goods price list, send business-size SASE. Living Jewels, P.O. Box 307, Hewitt NJ 07421, or fax (201) 728-5992..

For sale: exclusively captive-bred and born, many offspring available at this time. Boa constrictors (a specialty, many races and subspecies: Colombian, albino Colombian, northern Amazon Basin redtails, Hog Island, Argentine, southern Brazilian, Dominican clouded); pythons (Borneo short-tail, green tree, Macklot's, jungle carpet, spotted, ball); rainbow boas (Brazilian, Colombian, Costa Rican, Argentine); many exceptional colubrids (Louisiana pines, Costa Rican milks, Honduran milks, Veracruz milks, Andean milks, corns, Everglades rats, Taiwan beauties and more). 1996 price list available soon. Call, write or fax for additional info. **Arco Iris Herpetoculture**, 1016 Andover Street, Clinton MS 39056, (601) 924-1409 phone, (601) 924-9766 fax. VISA / MC accepted.

For sale or trade: 3′ female *Hydrosaurus pustulosus*. Used tanks and stands, various sizes up to 29-gallon, many stainless steel framed, 50¢/gallon or less. Ed Stone, DVM, P.O. Box 55191, Madison WI 53705-8991, (608) 238-2891.

Free: Past issues of CHS *Bulletin*, 1988–1993, pick-up at my home only. (But I'd accept a leopard gecko, or a corn, rat- or kingsnake if you insisted on trading!) John Cebula, (708) 858-3767, 4 P.M. – 8 P. M.

Pet-sitting service: Complete in-home pet and plant care, specializing in reptiles and other unique pets. Dogs and cats welcome with open arms, midday dog walking. Experienced and dependable service by devoted animal lovers, serving Chicago and suburbs, reasonable prices, fully insured and bonded. Ask about our habitat consultation and custom-made cages. Exotics & More, (312) 728-5457 or page us at (708) 750-3688.

Software: **TRACS**™ record keeping and breeding software for IBM and compatibles. TRACS™ Professional, a full system, $129; TRACS™ *Lite*, for the hobbyist, just $39.95. Add $5 s&h, $10 outside U.S. Send for a working demo for $10 (cost may be applied toward purchase). Or download demo free via Internet at http://www.herp.com/tracs/. Send check or money order to Leapin' Lizards, 23852 Pacific Coast Highway, #375, Malibu CA 90265.

Tours: **Road-riding in Costa Rica!** Treat yourself to the trip of a lifetime! Learn about tropical herps, find them, photograph them, see where they live. **Greentracks, Inc.**, offers the best herpetological tours led by internationally acclaimed herpetologists and herpetoculturists. See the Amazon, visit cloud forests, experience the world's greatest rainforest, super sunsets and good company. Call (800) 9-MONKEY.

Tours: Limited bookings available for guided tours of herpetological collection sites in Nevada. Call or fax (702) 471-0240 for reservations. For a brochure send SASE to: CRC, P.O. Box 0731, Las Vegas NV 89125-0731.

Wanted: on breeding loan, light phase adult female savannah monitors. Will consider purchasing exceptional individuals. I have an exceptional orange male, similar to the one in the Subaru outback commercial. I would also like to purchase or borrow one or two pretty adult male Hermann's tortoises. I have three very attractive gold and black females. Ed Stone, DVM, P.O. Box 55191, Madison WI 53705-8991, (608) 238-2891.

Wanted: clouded boas (*Boa constrictor nebulosa* or *B. c. orophias*). Doug, (707) 745-5583. [CA]

Wanted: Egyptian tortoises (*Testudo kleinmanni*). Dan, (303) 347-0394 (evenings only pleas) or fax (303) 347-1172 (24-hour). [CO]

Wanted: Spanish marbled newts (*Triturus marmoratus*), especially *males*; and Chinese crocodile lizards (*Shinisaurus crocodilurus*). Object — starting breeding colonies. Eugene J. Herrmann, 336 NE Northgate Way, Seattle WA 98125, (206) 361-2251.

Wanted: **Salamanders** for captive breeding project. Not for commercial purposes. Interested in all genera and species. *Only* specimens that have been *legally obtained*. Mike, (312) 752-7756.

Wanted: big-headed turtles; mata mata turtles; Mexican giant mud turtles (*Staurotypus triporcatus*); exceptionally large common snappers (45 lbs. & up); large alligator snappers (over 90 lbs.); spectacled caiman from Trinidad, Tobago and Surinam; dwarf caiman; smooth-fronted caiman; albino turtles (except red-eared sliders). Walt Loose, (610) 926-6028, 9:00 A.M. – 1:00 P.M. or after 11:30 P.M. Eastern Time.

Wanted: captive-bred savannah monitor. Tonya Maris, (312) 243-6642.

Advertisements (cont'd)

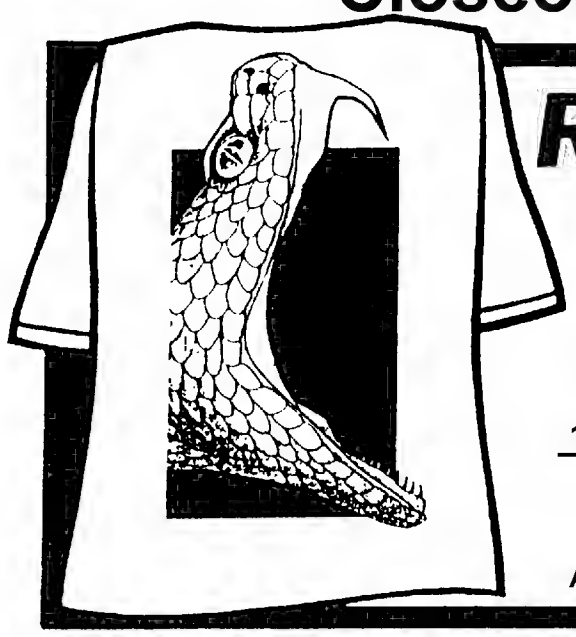
Wanted: female *Varanus timorensis*. Mike, (770) 987-3933. [GA]

Wanted: male leopard gecko (*Eublepharis macularius*). Would prefer 1994 or 1995 hatch, but will consider slightly older males. Prefer Chicago-area sources. John Cebula, (708) 858-3767, 4 P.M. – 8 P. M.

Wanted: Styrofoam boxes, any size or shape so long as they're not flimsy, preferably with cardboard liners, willing to pay from $2 to $5. Bring to CHS meetings. Scott J. Michaels, D.V.M, Serpent City, (815) 363-0290.

Line ads in this publication are run free for CHS members — $2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to: Michael Dloogatch, 6048 N. Lawndale Avenue, Chicago IL 60659, (312) 588-0728 evening telephone or (312) 782-2868 fax.

Closeout SPECIAL



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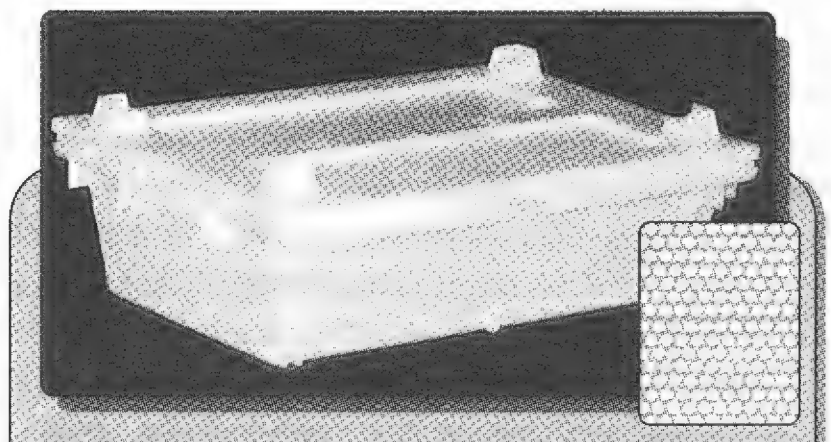
STRIKING FOUR-COLOR ILLUSTRATION
OF *CROTALUS ATROX* ON BACK OF
100% COTTON T-SHIRT w/ LOGO POCKET

$8.00 each
Color: Natural Size Large only
Add $3.00 s&h for one; $.50 for each additional

Send payment to: Chicago Herpetological Society, Mail Orders, 2060 N. Clark Street, Chicago IL 60614.

Health Food for your herps!

Highest quality rodents are available in all sizes from pink mice to jumbo rats. Fresh frozen crawler mice are only 17¢ each in lots of 2,000. All frozen animals are shipped in insulated boxes.



Nearly 9,000 holes and they still can't escape!

The new TTC is ideal for transporting, breeding and storing your mice, rats, snakes and lizards. The strong plastic TTC has over 2,200 holes on each side and over 4,500 holes on the lid to provide maximum air circulation even when stacked. Each TTC can be divided into 2, 3 or 4 compartments and its smooth plastic construction makes washing a snap.

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Unofficial Minutes of the CHS Board Meeting, March 15, 1996

The meeting was called to order at 8:05 P.M. Board members John Driscoll and Brian Jones were absent.

Officers' Reports:

The minutes of the February board meeting were read, corrected and accepted. The Treasurer's Report was distributed to the board and accepted.

Membership: John Driscoll was not present to report. It is sad to report that John's father has died, only two months after the death of John's mother. The CHS would like to extend our deepest sympathy.

Committee Reports

Captive Bred Animal Sale: Joan Moore confirmed that she still wants to chair the event. After much discussion and a poll of all present, Audrey Vanderlinden moved that the CHS put a deposit down on the August 10 date at the Clarion Hotel. Marcia Rybak seconded. The vote was all in favor except for Jack Schoenfelder who abstained.

Memorial Day Show: Tonya Maris announced that all plans for the show were in motion. Ron Humbert stated that he had received 11 exhibitor applications so far. Tonya plans to videotape the event for future use as a promotional tool.

Grants: President Tony Rattin announced that 13 applications out of 17 received are being considered for CHS grants. Recipients will be announced at the April general meeting and in the April *Bulletin*.

Legislative: Chris Lechowicz had no updates.

Library: Jenny Picciola presented a wish list of books she would like to have in the CHS Library. She was hopeful that some of these would be purchased by CHS members as donations, and offered to enclose bookplates acknowledging the donor. She brought up the problem of overdue books. She has made many attempts to contact the responsible individuals, but even when contact has been made, she has had little success in getting the books back. A discussion ensued as to how the CHS should handle this. Several suggestions were put forth, including the possibility of membership suspension until the return of the book. This, however, would require an amendment of the CHS Bylaws. The discussion was tabled.

Shows: Jenny Vollman announced the following shows: Chicagoland Family Pet Show, March 22–24; Earth Day Celebration at the Volo Bog Nature Center, April 21; Lake Katherine Nature Preserve, April 27; Little Red Schoolhouse, June 19; Shedd Aquarium, September 28–29 (Gary Kostka will coordinate this event).

Salamander Safari: Ron Humbert and Jack Schoenfelder announced that a permit for this event has been received from the Cook County Forest Preserve District.

Workshops: Nicole Marrello had nothing new to announce.

Old Business

The monthly CHS board meetings will be held at the North Park Village Administration Building, 5801 N. Pulaski, in Chicago, until further notice.

New Business

Joan Moore asked the board to consider obtaining a CHS corporate credit card in her name. A brief discussion followed in which numerous potential benefits were brought up. Marcia Rybak moved that the CHS apply for a corporate credit card with a $2500 limit. Jack Schoenfelder seconded. All members voted in favor.

Joan also raised the possibility of the CHS accepting credit cards in payment for merchandise as well as membership dues. Marcia Rybak made a motion that the CHS apply to accept credit cards. Audrey Vanderlinden seconded. The motion passed unanimously.

Joan will look into the above two matters and get back to the board with the necessary information.

Round Table:

Marcia Rybak announced that this was probably her last board meeting, as she is moving back to California. She bid us a fond farewell.

Joan Moore asked that we consider buying rolling shelving for the bookstore to cut down on wear and tear of books during transport and set-up, as well as physical wear and tear on personnel.

Marcia Rybak made the motion to adjourn, seconded by Jenny Vollman.

The meeting adjourned at 10:15 P.M.

Respectfully submitted by the Recording Secretary,
Audrey Vanderlinden

News and Announcements

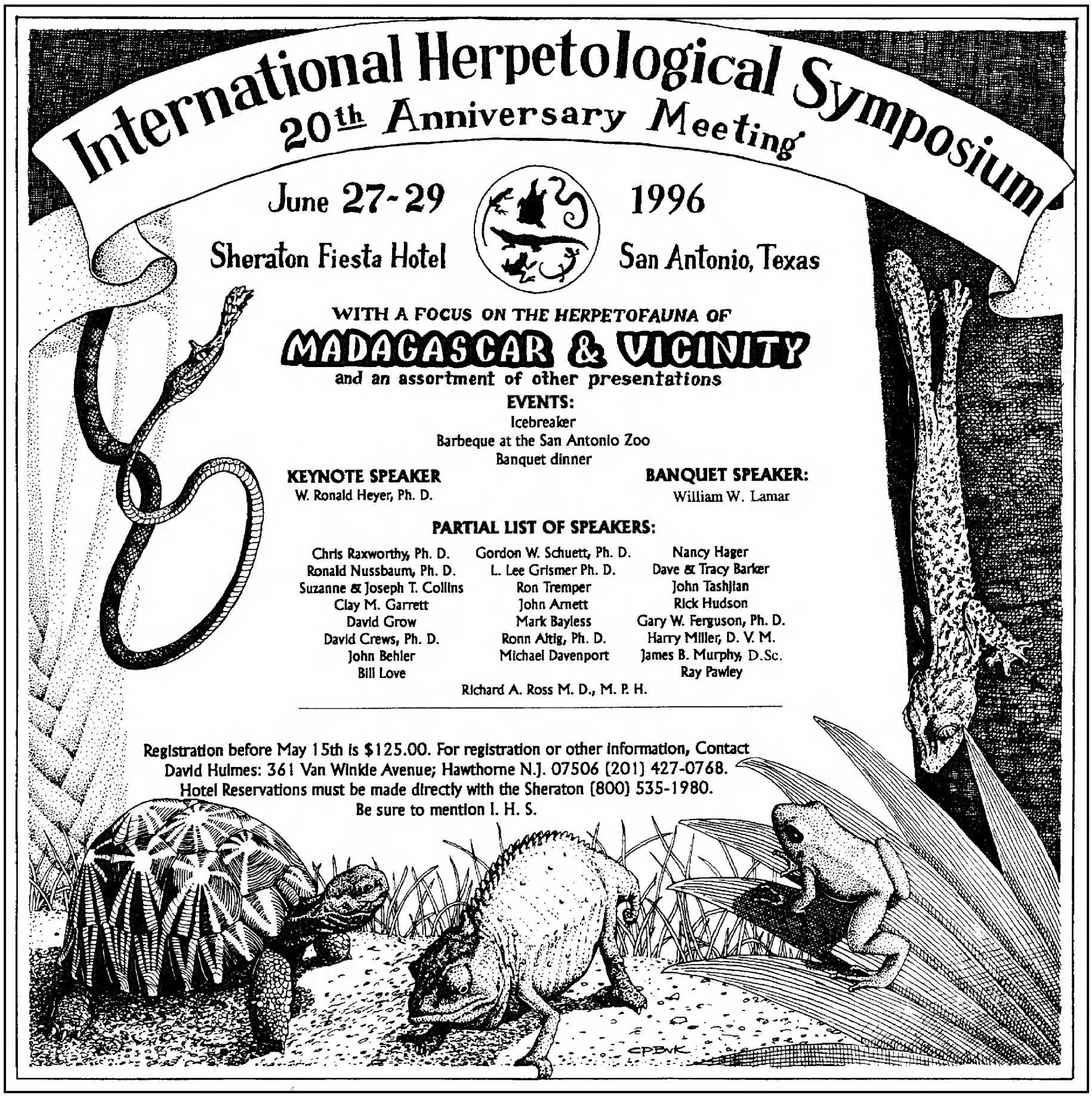
DEAD CANTILS SOUGHT

Dennis Parmley, Ph.D., is working on the vertebral morphology of the genus *Agkistrodon* and related genera. He needs frozen or dried specimens of deceased adult *Agkistrodon* species other than the U.S. species, especially even one specimen of an adult *A. bilineatus*. Dr. Parmley will pay any shipping charges and he has funds to buy the deceased specimens. Contact Dennis Parmley, Ph.D., Biological and Environmental Sciences, Georgia College, Campus Box 81, Milledgeville GA 31061-0490, telephone (912) 454-0817, E-mail <dparmley@mail.gac.peachnet.edu>

Answers to the March Herp-Acrostic

The quotation in last month's Herp-Acrostic was taken from page 213 of *Creatures of Mystery* by G[ray] Meek: "...no mortal will ever witness anything so nearly resembling the Black Prince in the flesh as when viewing a rattler successfully endeavoring to disarm his prey, or possibly man himself, through his power of fascination."

A. Greater
B. Myall
C. Ecchymosis
D. Earthworms
E. Kin
F. Clownfish
G. Rhipidistian
H. Eggplant
I. Aristophanes
J. The Frogs
K. Uracil
L. Ribbon
M. Evolve
N. Shining
O. Oviparous
P. Fafnir
Q. Mites
R. Yes-man
S. Sweden
T. Tennant
U. Eschews
V. Run for the hills
W. Yellowbelly



UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, April 24, at the Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, in Chicago. The speaker will be Dr. Val Beasley, of the University of Illinois School of Veterinary Medicine, who will attempt to explain "The Decline of the Cricket Frog in Northern Illinois." This program will be especially interesting to those of us old enough to remember when the now-missing cricket frog was one of the commonest amphibian species in the Chicago region.

We are required to use the entrance on the west side of the museum. We have permission to use the staff parking lot to the west of the museum. Entrance to this lot is from McFetridge Drive, the wide street just to the south, between the museum and Soldier Field. There is also free parking available in the lot to the north of the museum. The #146 CTA bus goes directly to the museum. Unfortunately, it does not operate past 9:00 P.M. However, after the program anyone needing a ride to a CTA stop will have no trouble finding one—just ask any board member.

Turtle Club

The Chicago Turtle Club held a "Show & Tell" on April 14, one week earlier than the usual meeting date, so this announcement is too late to do any good.

Amphibian Club

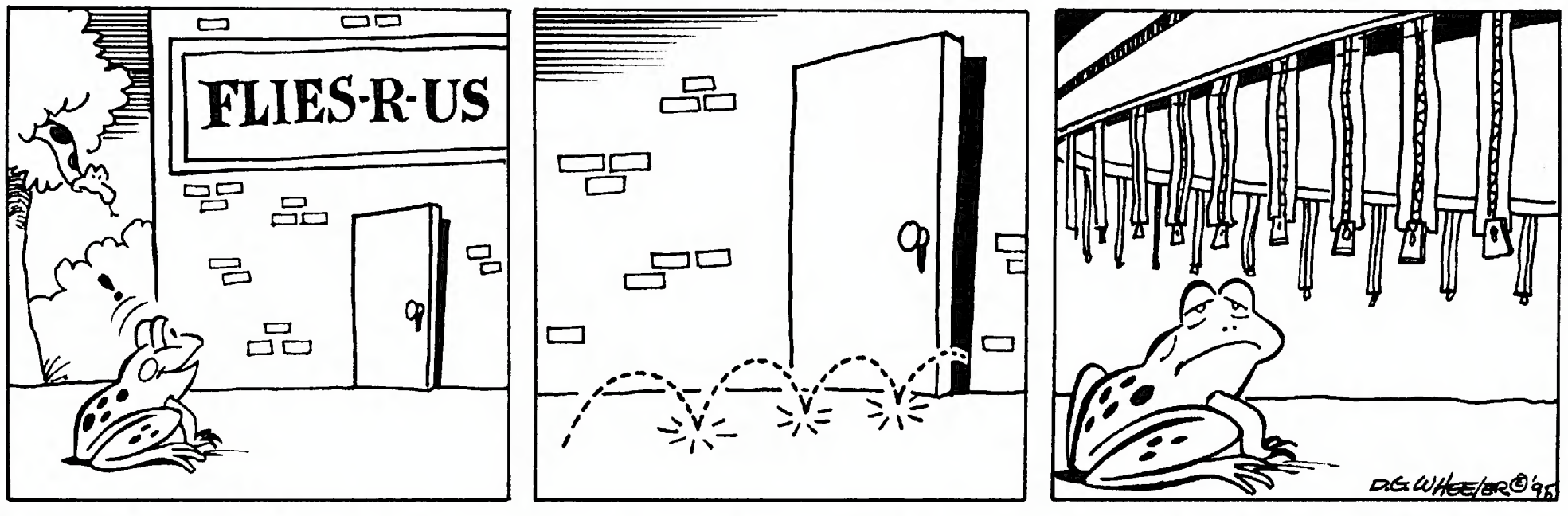
The Amphibian Club had not scheduled a May meeting as of this writing. For information on this group, call Dave Golde at (847) 679-1530.

1996 CHS GRANT RECIPIENTS

The CHS Grants Committee is proud to announce the 1996 grant recipients. The committee consisted of Anthony Rattin (Committee Chair), Byron DeLaVarre and John Gramieri. They report that this year's applications were extremely competitive, and that the final decision was a difficult one. Six $500 grants were awarded, as follows:

- David Beamer, Department of Biology, Indiana University Northwest. "Turtle Species Diversity in Relation to Wetland Habitat Diversity."
- Christopher Borg, Department of Biology, New Mexico State University. "Impact of Timber Harvest on the Population Biology of the Endangered Sacramento Mountain Salamander, *Aneides hardii*."
- Jody Hibma, Department of Biology, Central Michigan University. "The Effect of Ultraviolet Radiation on the Behavior and Development of Neonate Green Iguanas, *Iguana iguana*." This particular grant, specifically awarded in herpetoculture, was sponsored by Mardell Laboratories (Glendale Heights IL).
- Melissa Pilgrim, Department of Biological Sciences, Southeastern Louisiana University. "Habitat Use by the Massasauga Rattlesnake, *Sistrurus catenatus*, in Northwest Missouri."
- Michael Redmer, Department of Zoology, Southern Illinois University. "Demography and Fecundity in Southern Illinois Populations of the Eastern Spadefoot Toad, *Scaphiopus holbrookii*."
- Thomas Wilson, Biology Department, George Mason University. "Microhabitat Preference and Nest Survival in the Spotted Turtle, *Clemmys guttata*."

THE ADVENTURES OF SPOT



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